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AUTHOR	Law, Gordon
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ABSTRACT

The Satellite Technology Demonstration (STD) represented a cooperative and complex effort involving federal, regional, state and local interests and demonstrated the feasibility of media distribution by communication satellite of social services for rural audiences. As part of a comprehensive evaluation plan, the summative data base was augmented with subjective interpretive information derived from three case studies. The case studies conducted as part of the STD data collection activities were expected to produce four major benefits: (1) insights which would help in refining and modifying the data for summative purposes; (2) insights into the sequences of events and motivations occuring at sites; (3) information to amplify and clarify the interpretation of other statistical data received from all sites; and (4) validation of statistical information derived from site visitation serving as a data check for the large quantities of information collected from STD sites. The data collected from the case studies were largely subjective and response to various treatments at the sites varied at both extremes, depending on the methods used and the influence of the local staff. It was concluded that extensive data collection efforts were endured and supported probably because the STD was perceived as having an experimental base. Recommendations for future research was included. (Author/HB)

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A CASE STUDY OF THREE SATELLITE TECHNOLOGY DEMONSTRATION SCHOOL SITES

August, 1975

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
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Satellite Technology Demonstration
Dr. Gordon Law
Project Director

IR 002 794

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Additional information on the STD is available in the Final Report and in the Technical Reports. It is recommended that the Summary Report be perused prior to reviewing the Case Study Report if the reader is not familiar with the STD.

Dr. Gordon Law
Project Director
October 15, 1975

INTRODUCTION

The Satellite Technology Demonstration (STD), from 1970 to 1975, represented a cooperative and complex effort involving federal, regional, state, and local interests. It demonstrated the feasibility of media distribution by satellite of social services for rural audiences. Major Project goals were the testing and evaluation of user acceptance and the determination of costs associated with various delivery modes and products.

Awareness of the magnitude of the Demonstration and the magnitude of the types of decisions which may result from the Demonstration led to the design and implementation of a comprehensive evaluation plan involving both summative and formative efforts. The formative efforts provided an internal information base for improvement of STD products, services and procedures. In contrast, the summative efforts provided a comprehensive information base for future decision-makers at all levels.

The summative information base includes elements reflecting the functioning of the delivery system; audience acceptance of the STD and its products; benefits accrued by student participants; and costs associated with the system, its products, and site participation. To provide decision-makers with the most usable information base in these areas, the results of the STD evaluation augmented this summative data base with subjective and interpretive information derived from three case studies.

STD products and services were intended primarily for distribution to rural audiences in the Rocky Mountain region. Available resources made it feasible to involve in the Demonstration only a small number of rural communities (56 sites) and a limited range of audience members. To participate, a community had to install a receiving antenna at its junior high school. This antenna location enabled junior high school youngsters to participate in a career development series titled "TIME OUT." A second series, titled "CAREERS AND THE CLASSROOM" was available for in-service training of school staff. A third type of programming was "FOOTPRINTS," designed for general audiences who were invited to come to the schools on broadcast evenings to participate. A fourth product, Materials Distribution Service (MDS), broadcast selected filmic material which schools could videotape and use.

Twenty-four of the 56 sites had additional transmission hardware which gave them an audio interactive capability (i.e., they could "talk back" to the program originators in Denver). Twelve additional reception antennas were located at public television (PTV) stations in the region, enabling a broader distribution of selected STD products in that area of television coverage.

Because of the complexity of the STD and its myriad products, services, capabilities, and audiences, it was essential that subjective insights be obtained on the positive and negative effects and the "impacts" such an effort might have on small, rural, isolated schools and communities which initially had been identified as possessing limited resources. It is the purpose of this study to present the data accumulated from Case Study observations at three STD sites.

PURPOSE OF THE CASE STUDIES

The Case Study, conducted as a part of the STD data collection activities, was expected to produce four major benefits: (1) insights which would help in refining and modifying the data for summative purposes (this "insight producing" concept of the Case Study is discussed at length by Selltiz, et.al.[1]);

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(1) Selltiz, Clare, Marie Johoda, et.al., Research Methods in Social Relations, New York: Holt Rinehart and Winston, 1961.

(2) insights into the sequence of events and motivations occurring at sites (this socio-historical account of events was used to derive a better understanding of the processes, interactions, problems, and successes which occurred during the STD); (3) information to amplify and clarify the interpretation of other statistical data received from all sites; and (4) validation of statistical information derived from site visitations serving as a data check for the vast quantities of information collected from STD sites.

THEORETICAL FRAMEWORK

Case studies vary in their degree of "structuredness", and their underlying assumptions. The STD Case Stydy, viewing the STD in terms of the impact of its products and services, related to literature on the adoption/diffusion of innovations and to their impact on curricular change in the school.

In this context, the STD was perceived as an innovation conceived outside the school system but implemented into an ongoing set of social patterns and a social system (the junior high school). Each aspect of the social system (e.g., the students, teachers, support personnel, superintendent, boards of education, citizens in the local community, and state educational leaders) formed perceptions of the STD, based in large part on experience, direct involvement, and on formal and informal contacts with the STD. The adoption/diffusion model developed by Kloglan[2] provided a general framework for relating the events of the STD to stages in the process.

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(2) Klogan, Gerald E., and E. Walter Coward, Jr., "The Concept of Symbolic Adoption: A Suggested Interpretation," Rural Sociology, 35, 1, (March) 1970.

TABLE 1: STAGES IN ADOPTION/DIFFUSION

Stages in the adoption/ diffusion process	Awareness Information Evaluation Symbolic Adoption				Adoption
Stages in the STD	Selection Site selected and contracted to participate in STD	Preparation The preparation period between signing the contract and the beginning of program delivery.	First Semester The first semester of programming which was considered formative and subject to revision.	Second Semester The second semester when program and related independent variables were considered refined.	Acceptance Final acceptance--which can be only partially inferred from expressed opinion at conclusion of project. Behavioral indices in subsequent years would be more valid.

Across each of the stages, the major efforts of the STD can be further subdivided into categories relating to specific events. For example, in the preparation stage, efforts which had to take place at the site for the Project to be implemented included the identification and maintenance of local STD people (teachers, site coordinators and students), the installation of an antenna, purchase of support equipment (e.g., TV and recorder), and site maintenance and communications.

Most studies on curricular change proceed from a conceptual framework which serves as a general guide to focusing observations and brings some continuity to perceptions. The orientation used consists of the basic elements affecting the accepting process: (1) nature and magnitude of acceptance; (2) acceptance changes over time; (3) acceptance of specific item (an idea or a practice); (4) acceptance by individuals and groups; (5) acceptance linked to specific channels of communication; (6) acceptance linked to a social structure; and (7) acceptance linked to a system of values. The Case Study essentially gathered specific information on the interactions, problems, perceptions, and activities observed as the implementation of planned STD events unfolded in the selected sites.

SITE SELECTION

The choice of cases for study in any case study approach depends on the purpose of the study. If the purpose is to generalize to a larger population, then cases should be chosen on a random basis. In the present instance a major purpose of intensively studying selected sites was to produce insights to support the summative acceptance studies of all participating sites, Selltiz, et. al.,[3] address the "insight producing" function of case studies, and indicate that there are at least eight different bases for purposive selection of cases, none of which would ensure that the selected site would be more productive in producing insights than others. Thus, a decision was made for state coordinators to recommend sites which they believed would be particularly viable and cooperative in a case study endeavor. Further selection was based on a "funneling" strategy.

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(3) Selltiz, Clare, Marie Johoda, et.al., Research Methods in Social Relations, New York: Holt Rinehart and Winston, 1961.

Essentially, the funneling process involved the researchers visiting each of the recommended sites. Visits to 10 sites resulted in the identification of 3 sites for inclusion in the final study. The criteria for inclusion involved such factors as: diversity-homogeneity of populations, location, school personnel, school climate, innovativeness of the school, school-community relations, perceived representativeness or diversity, and perceived cooperation.

DESCRIPTION OF SELECTED SITES

SITE A

The Community

Site A is a rapidly growing town in southeastern Montana. The economic foci of the town are two large electric power plants which are now under construction and which will be fueled by the large quantities of coal which are easily available from nearby strip mines.

Site A is a company town, with virtually all property and all business enterprises owned and operated by the Montana Power Company which also owns and operates the generating plants. The overwhelming majority of residents of the town are employed by Montana Power or by one of its subsidiaries such as Bechtel Engineering. Most of the families live in mobile homes, since the rate of population growth has outpaced the construction of conventional housing and since many of the heads of household are transient construction workers. In this sense, Site A is a "boom town," having grown from a population of only five hundred in 1970 to over 3,000 in 1974.

Given this phenomenal community growth, coupled with the transient nature of that portion of the population engaged in construction it is perhaps not surprising that there has not yet developed a sense of community spirit or a viable network of community leadership and established channels of community participation. Although there are various "sub-communities" which have formed around, for example, church groups, clubs, and work units, there appears to be little cross-membership among these groups.

The School

In the spring, 1973, Site A was selected to participate in the Satellite Technology Demonstration as an IT (Intensive Terminal) site. The STD was not the only thing new at school that year; there were several major changes at the school during this period, including a change in top administrative personnel. The former superintendent left, and a new one was employed who brought in a new high school principal, a former co-worker. These men were interested in building an esprit de corps within the faculty and in replacing the previous "military" style of supervision with one which would encourage the faculty members to take initiative and to be innovative. The new administration worked closely with the faculty during the summer, 1973, to encourage this change in perspective.

In addition to changes in administrative personnel and style, the school also experienced a dramatic increase in the size of its student body and faculty. In 1972, the school had 75 high school students and 90 elementary school students. In 1973, the student body more than doubled, with 180 high school students and 212 elementary students. This increase paralleled the very rapid growth of the town. In the years ahead, the town is expected to grow even more, and the school too will experience an extraordinarily rapid growth rate. A Westinghouse Report estimates that the combined high school and elementary school population will reach 1800 students by 1978. (It should be noted that this estimate was based on the continued construction of additional generating plants which are currently being delayed by environmental requirements.)

To cope with the rate of growth, the school is developing plans for a building program which would be supported by the expanded tax base represented by the power plants. A three-man team from the University of Montana is assisting the school in defining educational objectives and priorities. A significant reorientation of educational objectives is likely to result. Whereas previously the school and the school board has been oriented to college bound students, there is now developing the realization that there is a need to establish a broader career preparation which includes vocational training. At the present time, planning for the increased enrollment and the curricular revisions are the top priorities of the school board and administration.

Acceptance of and participation in the Demonstration was largely a function of the degree to which it was congruent with these higher priorities.

Concomitant with the growth in the number of students at the school is an increase in the number of teachers. In 1974-75 the faculty doubled in number from the preceding year. Many of the new faculty members were also newly graduated from college. A number of consequences result from this situation: First, the youth of the faculty encourages an innovative stance on such issues as educcational procedures. Second, the large proportion of new teachers alters old procedures and old patterns of interpersonal relationships within the school and results in a discernible "openness" in the operation of the shcool. Thus, the environment within the school appears to have been propitious for the Demonstration.

On the other hand, the newness of the faculty and the marked expansion in the student body meant that during the 1974-75 academic year the teachers were pressed for time as they developed new curricula, established new procedures, and sponsored more extra-curricular activities. In this sense, acceptance of the Demonstration by faculty would depend in large measure on their perception of the degree to which it coincided with and did not compete with their other priorities.

The school board in Site A is composed of three members, none of whom live within the town itself. The board members are from ranching backgrounds rather than from the construction background now prevelant in the town itself. The board is conservative, traditionally college-oriented in terms of curriculum, and somewhat resistant to changing the curriculum to reflect the more vocationally-oriented interests and needs of town students.

The board has recently been expanded from three to six members. This change was followed by an election with three new members being elected in a hotly contested campaign, as some groups within the town secured representation for the first time. The school administration and faculty are now leading a more receptive board toward a more balanced view of curricular needs.

It is against this background of change--change in the town, change in the school administration, change in the student population, and change in the curricular emphasis--that the STD was introduced.

SITE B

The Community

Site B is a small agricultural center and county seat in western Colorado. Community activity centers around ranching. Social services are provided at a level seldom seen in a town of its size, including a large hospital and staff (including three local doctors) which provide services usually found only in larger cities; a heated swimming pool open four months in the summer; and a community center which houses the library, offers facilities and services for senior citizens, and provides meeting space for other community functions.

Recently several surveys of community needs have been conducted because the town is anticipating a substantial growth in the next 10 years as coal and oil shale resources are developed in response to energy shortages. A number of community hearings and meetings have been held with incoming corporations to determine effects of growth and the financial commitments necessary to pay for expansions in municipal facilities and services. Present residents have mixed responses to the impending development. The older, long-time residents foresee a much higher property tax and thus generally oppose new development. Business people welcome expansion as a means to improve the town's economy. New families moving to Site B are of a more transient nature; they perceive a great deal of resentment from the townspeople.

The Schools

The schools are active and provide a rather advanced level of expertise and innovation--due mostly to the efforts of a superintendent who is known in the region for his innovative ideas. The high school has been operating on a modular schedule which seems to be well accepted by faculty and students. The junior high school operates in an old building in need of renovation and maintains a traditional and rather inflexible schedule of 40-minute class periods. The elementary school features a team-teaching approach within grade levels. Within a grade, the students are grouped by ability in reading, language arts, and mathematics.

Various packaged curriculum materials and technological equipment are used in all three schools. Federal grants have enabled Site B to establish innovative programs: the field-testing effort with a physics film series at the high school level; the implementation of several career packages in the junior high; team-teaching in the elementary school; and the provision of fairly well stocked school libraries, particularly at the elementary school.

Instructional staff throughout the system are encouraged to be innovative and are supported in such efforts. While the staff is given latitude in their approaches to instruction, careful consideration and guidance is provided regarding the goals, needs, and objectives for the curricular offerings being made. These guidelines are the result of extensive faculty involvement and community inputs, structured in accordance with a contracted educational accountability system of accreditation with the State Department of Education. This participation of local community members is also reflected in a committee of business persons who serve in an advisory capacity to broaden the occupational offerings of the high school; they speak with students, encourage work-study activities, and build support for a planned vocational/technical wing on the high school.

As noted, community B supports the school system and shows evidence of direct involvement. At the same time, they demand rather tight discipline and a constructive and comprehensive educational program. It is this strong school/community relationship which prompted the inclusion of this site in the Case Study.

SITE C

The Community

Site C is a stable community in Northern New Mexico with a population of about 1,500 persons. It draws, however, from a larger farm and ranch area of about 4,000. Ethnically, the population make-up is about 60 percent Mexican-American and about 40 percent Anglo.

One of the key features of the community is a state institution school which is adjacent to the edge of town. This facility employs approximately 40 percent of the work force in the area. The distribution of the remaining work force is: 15 percent with the public schools; 15 percent in farming; 10 percent in a variety of shopkeeping and related roles; and the remaining 15 to 20 percent on welfare. The community's main street has a number of vacant buildings among the remaining businesses. Newspapers and other media originate from outside the town. The county seat 30 miles away publishes the weekly paper. Television reception is of poor quality and is available through translator facilities. A sense of isolation is readily apparent to the casual visitor. A handful of local people are involved in the community leadership; one person interviewed held over 50 positions in the community. This apparent shortage of leadership or involvement places a great demand upon those who serve.

Community activity revolves around school sports, churches, and several service and fraternal groups. The interface between organizations is carried on primarily by the individual members who belong to two or more groups. For example, there is an unwritten agreement with the churches in the area that no school activities or community activities are scheduled on Wednesday or Sunday.

Services for the elderly are provided by volunteer groups from churches and service clubs. There is a small community hospital managed by a small staff and supervised by two local doctors. Most of the medical equipment has been acquired from service club donations or with matching grants from federal programs. Because of the community's general isolation, community events are generally well supported. For example, a wilderness movie special at the one local theater was seen by 50 percent of the populaiton in one evening of three successive showings

The Schools

The school system is comprised of four schools: two elementary schools, a junior high school and a senior high school. District enrollment is approximately 600, with the state school enrolling an additional 200 students. Of particular interest is a cooperative exchange program between the public schools and the state school in which students from the state school are allowed to attend classes in the system while students from the district with a particular interest in welding, graphic arts, or other vocational subjects may enroll in these classes at the state school.

Ninety percent of the school's fiscal support comes from the state's general education fund. The community, however, does provide support when needed. For example, last year the school lunch program was threatened when state and federal monies were late. The superintendent contacted 20 business people in the community and solicited $100 from each one to continue the school lunch program for the remainder of the school year. While this example indicated community interest in the school, Site C has a limited local fiscal base sufficient to support the schools. This very modest fiscal situation was one of the principal reasons for their inclusion in the Case Study.

The superintendent is relatively new to the community, having come several years ago from the Denver area. A large turnover of school staff was experienced at the end of the 1974 school year (June) when a number of teachers and the high school principal retired. Several faculty, among them the school counselor, also left the area. The high school principal and counselor had been instrumental in supporting participation in the STD. The superintendent sought replacements who would also support and be involved in the Demonstration. A major portion of the new counselor's interview (and subsequent selection) involved his willingness to become the STD site coordinator and career teacher. When incoming high school principal (who had been the principal of the state school) was informed of the district's participation in the Demonstration and that the new counselor was to be the site coordinator and STD teacher, he agreed to rearrange the class schedule to accommodate the Demonstration and to promote support among his staff. In essence, the superintendent directed the involvement which was accepted as an additional duty by the new principal and school counselor.

METHODOLOGY

Considerable flexibility is needed in conducting field research f the type encompassed in the Case Study. In the present study, emphasis was placed on non-participant observation and on open-ended and structured interviews. The use of these subjective methods gains support in the following statement:

> As a methodological pragmatist, the field researcher concerns himself less with whether his techniques are "scientific" than with what specific operation might yield the most meaningful information. He already assumes his own honest rationality and scientific attitude: therefore, he is not ready to concede in advance the superiority of certain types of "instrumentation" over his own abilities to see and to make sense of what he sees. He is certainly aware of selectivity in human perception and of the probability of bias, but he does not view "objective" or "consensually validated" techniques as being free of these limitations either.[4]

To complement the data obtained from the subjective efforts, objective data from other STD evaluation efforts was available for each of the three sites. This data included audience attendance records and acceptance patterns for various products; student benefits; hardware and site operator performance; and in-kind cost support extended by the sites. In addition to the substantial objective data base available, monthly site visits by the STD staff augmented the Case Study. These visits were scheduled to coincide with specific site events. Each visit was conducted to make general observations and to address

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(4)

selected aspects of the site's activities. The visits that were made to each of the three sites and the events around which the trip was scheduled have been listed in Table 2.

Early in the operational period, visits to case study sites were supported by phone calls as needed to maintain close communication. The visits to the case study sites were also augmented by visits to five additional sites which were considered by the state coordinators to be unique and by evaluative visits to nine other sites. These supplementary visits provided a broad context from which to interpret the activities observed at the case study sites.

TABLE 2: STD CASE STUDY SITE VISITS

Site	Dates of Trip	Event Around Which Trip was Scheduled	Number of Days
Site A	6/7/74	Exploratory visit to determine the site's attributes and willingness to participate in a case study effort.	1
	8/20-21-22/74	Pre-service training of site personnel	3
	8/29-30/74	Pre-testing of first semester students and collection of initial acceptance indicators from school staff.	2
	10/10-11/74	"Time Out" and "First Friday" student interaction.	2
	11/8-9/74	"Footprints"--"Great Land Race" (local participant on panel)	2
	1/13-14/75	School Board Meeting--STD topic on agenda	2
	3/19-20/75	"Time Out"	2
	5/21-22-23/75	Closing interviews	3
Site B	5/19-20/74	Initial Visit	2
	10/22-23/74	Observer orientation	2
	11/25-26/74	Student observations on use of Advent projector	2
	1/15-16/75	Comprehensive school planning meeting in session	2
	2/13-14/75	Ongoing school activity-school board elections	2
	3/12-13-14/75	"Footprints"	3
	4/25-26/75	Pilot digital system test (another STD study)	2
	5/22-23/75	Closing interviews	
Site C	5/19-74	Initial visit	1
	10/29/74	"Careers and the Classroom"	1
	12/17-18/74	Materials Distribution Service	2
	1/8/75	Observe effects of mid-year site training	1
	1/29-30/75	"Footprints"--observe start-up of second semester student population	2
	3/4-5/75	"Careers and the Classroom"	2
	5/8-9/75	Closing interviews	2

DATA

Each visit to a site resulted in a comprehensive report which was entered into the data log being accumulated for each Case Study site. Since two STD research personnel were involved in the Case Study, the data logs for the sites were handled somewhat differently. However, the treatment given the data for Site A is generally representative and will be used as an example.

After a report was developed on a visit to a site, copies were made and each information item was entered in a log under several file categories. Separate chronological files were maintained for the following categories:

School-Related Information:

Three different school administrators
STD site coordinator career development teacher
Five selected members of the school staff
School board
School organization and climate

Community-Related Information:

General community contacts and reactions
Public television station which relayed STD products

STD Products and Services (audience reactions and observations):

"Time Out" (career education series for junior high students)
"Careers and the Classroom: A New Perspective for Teachers"
  (In-service for school staff)
Footprints (Evening series for community audiences)
Materials Distribution Service
Supplementary Support Materials
Public Information
Hardware
State Coordinator/Field Support
Research

Cross-filing the data at Site A in the above 16 categories enabled the observation of trends occurring across time in various categories. Related strategies were adopted for case study Sites B and C.

SITE HISTORIES

SITE A

Selection

In the fall, 1972, an STD state coordinator indigenous to Montana was hired and trained. One of his initial tasks was to work with personnel in the State Department of Education to obtain their suggestions on potential STD sites. Because the STD's research plan was not in place, potential sites were considered on the basis of size, audience demographics, available resources, and anticipated cooperation. By December, 1972, a list of 30 potential sites was cooperatively developed. Representatives from these sites participated in a half-day meeting which formally intorduced the STD project to the prospective sites and sought indications of whether the site representatives (usually school superintendents) would welcome a site visit to further discuss their site's potential participation.

During the spring, 1973, follow-up visits to potential sites were made by the state coordinator and by representatives from the regional STD office. During the intervening months it became apparent that funds would be available to support only seven sites per state and that such support would be restricted to rural sites at which the availability of educational television was limited. In accordance with these specifications, seven sites were selected, one of which was a northern Montana site on a Native American reservation. Aside from its demographic uniqueness, the site possessed an extremely capable school superintendent.

Soon after the seven sites were selected, the school superintendent at the site on the reservation resigned from that school to relocate in a rural school in southeastern Montana which had not been considered as an STD site either by Utilization personnel or by State Department representatives. However, during the summer, 1973, the superintendent was able to persuade State Department personnel that his new school should be the STD participant rather than his former school. The Utilization component of the STD, responsible for site selection, concurred with this new recommendation.

The substitute site became the case study site. Its selection was unorthodox; however, hindsight suggests that it might also have been fortuitous. Although substitution of sites once they had been designated was rare, the approval of this substitution was initiated by local and state personnel, consistent with the "user" philosophy that guided Utilization actions.

Preparation

The process of familiarizing the school faculty and the community with the Demonstration began in mid-1973 and continued over the ensuing months as the Demonstration took form. The new superintendent brought his former high school principal with him to the new school. They began to discuss the Demonstration informally with members of the faculty during the summer, 1973. Preparations for the antennas (installing a fenced area near the school in September, 1973) stirred some questioning by faculty and community members. Also in September, a member of the regional STD staff visited the town to gather information about the site and to advise site personnel of developments at STD headquarters in Denver.

Apparently, not much was done in the way of systematic preparation at the school during the fall, 1973. However, beginning in January, 1974, the superintendent and high school principal began to plan for the implementation of the Demonstration, especially for the selection of a site coordinator/career education teacher. Interest among the faculty seemed to increase in March when the Utilization representative and the new state coordinator for Montana visited the school to provide an update on the Demonstration.

At about the same time, some of the school staff were asked to participate in the formative evaluation of some initial program scripts. The superintendent and a 7th-8th grade social studies teacher read and critiqued some of the scripts. Extra copies of the scripts were placed in the faculty lounge for other teachers to review. Further interest was manifested both by the faculty and the community when the dish-shaped antenna was installed in May, 1974. Installation of the lead-in cable and down-converter followed in June. At the last school faculty meeting in June, 1974, the superintendent announced the selection of the site coordinator/teacher. Several faculty members had expressed an interest in the position, but the superintendent's selection appeared to meet their approval. It further appeared that, in selecting a site coordinator/teacher, the superintendent was able to pick from among a number of the more competent members of the school staff.

During August, 1974, just prior to the first semester of programming, the newly selected site coordinator, the high school guidance counselor, and the elementary principal participated in a three-day pre-service training program conducted from Denver and transmitted via satellite to selected sites in the region where personnel from STD sites were clustered. The follow-up activities and discussions held in conjunction with the pre-service program enabled site personnel to become familiar with their state coordinator (who served as discussion moderator) and with personnel at other sites. The major purpose for the pre-service training program was to acquaint site personnel with the equipment they would be using, the evaluation instrumentation and procedures they would need to implement, and the various television products they would be supporting. The reaction of the site personnel attending the pre-service was quite positive, but they appeared to be somewhat overwhelmed by the scope of the Project and the site responsibilities, particularly those regarding evaluation.

In early September, 1974, the Utilization staff member returned to the local site for a final pre-broadcast visit to address any unresolved issues and to make certain the site was ready for participation. In his September, 1973, visit report, the Utilization representative characterized the site as "a community where a 'show-me' attitude may prevail," his report a year later noted a change in the prevailing attitude; he indicated that, "This is a strong site, with an interested, enthusiastic and energetic site coordinator and a supportive and interested school administration." In summary, the series of preparatory events appears to have resulted in the site's becoming more receptive and favorably pre-disposed toward the Demonstration.

Superintendent

As previously noted, the superintendent came to the school in the summer, 1973. He is considered an effective and influential educator. Comments by informants in the school, in the community, and on the school board suggest that he is highly respected and that his opinions carry a good deal of weight. Moreover, he apparently has considerable "clout" at the State level.*

His administrative style might best be characterized as that of a facilitator. Two examples illustrate this style:

> The superintendent felt that the school board was sometimes operating in isolation from the faculty, and vice versa. He attended the first meeting of the Faculty Association and urged them to go directly to the board, rather than having him act as their intermediary. The faculty and the board both endorsed this plan, and this year, at each meeting of the board, presentations and discussions by faculty members are a regular part of the agenda.

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*One example, cited by the high school counselor: State regulations prohibited raising school budgets by more than 7 percent a year. Given the phenomenal growth of the town, this would have been a disastrous constraint on the school. The superintendent went to visit a few legislators in Helena, and by 4:30 that afternoon, the legislature had passed a bill allowing unlimited increases.

> The superintendent senses that there is now a communications gap between the community and the school. He has sent teachers to meet with different groups in the community and is starting to use a corps of volunteers aides from the community as liaison people. He noted that he has his own ideas about the direction curriculum development and the school building program should take, but is trying to get the community and the board to come up with ideas on their own.

The superintendent seems well attuned and sensitive to the ethos of rural communities. At the same time, he appears to be committed to the introduction of new and innovative educational programs into the schools. In this sense, he was predisposed to support the Demonstration and believed that the school had an obligation to take the Demonstration seriously. By his own account, and that of key faculty members, the superintendent was highly committed to the idea of the Demonstration. While he appreciated the exploratory nature of the Demonstration and was tolerant of some of the inevitable "snafus" and "bugs" in the system, he had certain expectations--initially quite high, he noted--about the benefits to be derived from participation. He maintained a constructively critical stance toward the Project and encouraged his faculty to do the same.

High School Principal

The principal came to the school in the summer, 1973, with the superintendent; they appeared to get along very well and to share the same perspective on education. He was therefore pre-disposed to accept and support the Demonstration. The principal seemed to be well liked by his faculty. One of the first things he did upon coming to the school was to spend the summer working closely with the faculty, getting prepared for the fall semester and building up an *esprit de corps*. This apparently was a very important event in terms of getting the faculty together and motivated.

Elementary School Principal

The elementary principal was new to the town in 1974, but had worked with both the superintendent and high school principal at their previous school system.

Perhaps because he was new and needed to establish his identity within the school, and/or perhaps because he was not present the first year when plans for the Demonstration were being laid, the elementary principal seemed to have a negative predisposition toward the Project. The issue of career education did not seem to be as high a priority in the minds of the elementary school staff as it was in the minds of the high school staff, and this may in part account for the elementary principal's skepticism about the Demonstration. He did have particularly good insight into the capabilities and potentialities of educational technology. The elementary principal probably gave more serious and more insightful consideration to the Demonstration than any school staff member at school.

STD Site Coordinator/CD Teacher

The STD site coordinator was a veteran teacher with considerable stature among the faculty. She is a past president of the local Faculty Association and was considered a productive activist within the school. She was selected as STD site teacher/coordinator on the basis of her ability and her interest in the Project. She was very enthusiastic about the Demonstration, devoted a great deal of time to it, and was one of its chief advocates within the school.

School Climate

These individuals created a supportive but remarkably "open" school climate for the introduction of the STD products. This "openness" was reflected in the data initially acquired from staff members. They perceived their school environment to be quite harmonious and democratic. Relationships among teachers were rated good to excellent by 92 percent of the staff. Even more positive were the ratings of the relationships between teachers and administrators, which 70 percent of the respondents rated excellent and the remaining respondents rated good.

Harmony was also percieved to exist among the administrators and between the administrators and community. Slightly less positive were the perceptions of respondents to the relationship of the teachers to the community. Most respondents rated this relationship good, but many considered it average. Teachers and teacher organizations were perceived as a meaningful voice in the decision making process within the school and the community regarding educational matters.

First Semester

During the period from August 29 to September 6 the site coordinator was busy accumulating pre-test data on the students who would be taking the "Time Out" series. This testing, which required approximately five class periods to complete, assessed the students' entering knowledge of career development and the attitudes they held toward the topic. The site coordinator and students found the instrumentation comprehensive but not a burden because adequate time was available. During the course of completing the testing procedures, the students also completed demographic cards which gave each of them an STD identity number which they used in referencing data submitted to Denver headquarters throughout the semester.

Prior to the beginning of program delivery, the site coordinator also distributed a comprehensive instrument to members of the school staff and administration. This instrument obtained three categories of data. First, it obtained demographic and professional background data on each staff member coded to the last six digits of his/her social security number for future reference. Secondly, the instrument package obtained data on the school's organizational and decision-making climate. Lastly, staff members were asked to rate a set of semantic differential items designed to determine the initial climate of acceptance/expectancy to the STD and its products.

The school staff's reaction to the instrument package was mixed. Some concern was raised regarding the use of social security numbers for reference purposes. Concern was also expressed about the length of the instrument package. Nevertheless, with encouragement from the administration, the staff returned and the site coordinator completed all the instruments with almost 100 percent participation. This participation is a reflection of the support the STD had from key members of the school. A brief review of some of their histories and a look at the school climate provides an orientation to subsequent actions and occurrences that constituted the site's participation during the operational period.

In-Service

The newly established open and democratic school staff environment was somewhat strained when the superintendent announced that staff attendance at all STD in-service programs would be expected. This came on the heels of some minor difficulties (which were worked out) regarding adjusting of school schedules to meet the needs of the STD broadcasts for the students' "Time Out" series. These two irritants were chafing the staff when they met to receive the first in-service program. Staff informants indicated that the first "Careers and the Classroom" program was so ineffective that the elementary principal fell asleep. It was he who had been responsible for resolving the scheduling difficulties; similarly, he felt that his elementary staff was not heavily involved in career development; and, thirdly, he had some particular in-service topics that he wished to address during his first year with his staff which would not be possible because of the required participation. Consequently, he became a vocal and outspoken critic of the STD in-service program and a rallying force for those teachers concerned with the forced participation and the program quality.

Concern for the in-service program somewhat abated with the second lecture program, which was very well received. However, the third and fourth lecture programs again failed to meet the teachers' expectations of something interesting and practical. Following the fourth meeting, the elementary principal announced that the elementary teachers would no longer be required to attend the sessions, since they were "a waste of time" and the lecture format was ineffective in presenting meaningful information. The superintendent, however, felt that the school had an obligation to the STD and countermanded the edict. In so doing, he challenged his staff to stop bellyaching and provide the STD with constructive criticism which might result in program improvement. For about four weeks following this challenge, the STD was the recipient of numerous letters which presented complaints, concerns, and suggestions. In a November in-service session, an informant took an unobstrusive poll midway through the program and observed that 15 teachers were correcting papers, 7 teachers were reading books, 1 person was asleep, and the remaining 6 members were paying attention to the program. Thus, most staff members were conforming to the superintendent's edict by attending but were not participating. This situation prevailed throughout the remainder of the first semester.

In summarizing the teacher's complaints about the in-service programs, the superintendent said, "My teachers are saying to hell with the philosophical approach. They have already had enough of that in college. They want a nuts-and-bolts format which talks about implementation of the ideas in their classroom." He went on to say that perhaps no more than 20 percent of his staff would participate in the in-service program if he were to make participation voluntary. This estimate is consistent with the number of staff (8) taking the in-service course for credit through Northern Montana College.

Student Programming

The low acceptance of the in-service program did not affect the school's acceptance of other STD products. From the beginning of the semester, student and teacher acceptance of the "Time Out" series was strong. Two classes (an eighth-grade class and a seventh-grade class) viewed the program the first semester, with the seventh grade serving as the research class. On a five-point scale ranging from excellent to poor, the seventh graders' ratings generally centered around good. The eighth-grade class viewed a taped version of the "Time Out" series during a later period each day.

The formats and vehicles of "Time Out" receiving the greatest acceptance were "Crossroads Corners," film clips, and the puppets. The students indicated that some of the characterizations such as "Nick Garter," "Dr. DOT," "Captain Consumer," and (to a lesser degree) "Aunt Frumpy" were "silly."

Because Site A was an "Intensive Site" with capability for two-way audio interaction, the students' use and acceptance of the interaction was carefully observed. The six-minute "Time In" interaction period which followed "Time Out" on Mondays through Thursdays received only modest acceptance. This format provided students a structured opportunity to ask questions of content personnel in Denver. Because the questions could not be asked on a spontaneous basis nor on a daily basis, the "question-asking" had to be planned ahead. This constraint, coupled with the relatively low technical quality of the interaction during the first two months, seriously hindered the students' enthusiasm for interaction--reflected in the fact that they were attentive only at those times when they were the interactive participants. As the technical quality of the system improved, during the semester and their ability to hear other sites' questions improved, their general acceptance of the "Time In" interaction period improved.

The acceptance of the Friday interaction programs, "Time for You," also started quite low and improved somewhat as technical quality improved. Acceptance also improved as different formats were tried and weak ones discarded. Site A students were interested in the Friday programs and participated in one of the debates. However, most of the debate topics did not seem to interest the students at this site.

The instructional staff's reaction to the series was, as previously noted, good. The site coordinator/career education teacher was most enthusiastic. She reinforced program content with her own activities and many derived from the STD teachers' manual which she though was excellent. She was not able to make much use of the student booklets and believed that they did not have sufficient substance to justify their development by STD. The teacher also expressed concern for the limited time she had available to conduct supportive activities; however, she did not pose alternatives to the existing time distribution. In regard to student ratings, she noted that the students enjoyed being able to provide the STD with their reaction to programs. The elementary principal also noted that the students showed an interest in rating the "Time Out" series and indicated he might provide them other opportunities to give "feedback" in the future.

Early in the semester the elementary principal was somewhat critical of the "Time Out" series, particularly on one occasion when he viewed it with a representative of the State Department of Education. He expressed his concerns regarding the program in a letter to the STD indicating that he felt the programming was superficial and "fluffy." He was particularly concerned with interaction, feeling that it was not making viable use of the communication system potential. He thought that sites should have teletype capability so that questions could be relayed to Denver whenever they occurred. Content personnel could then screen the questions, select priorities and answer and discuss them on the air. While remaining somewhat skeptical of the interaction aspects of the student programming, the elementary principal did mellow over the semester in regard to the "Time Out" series to the extent that he strongly supported its objectives but continued to have reservations about some of the characterizations in the program.

Material Distribution Service (MDS)

When Site A was contacted originally about the Materials Distribution Service, the service was described as a responsive system through which a teacher could request selected programs from the film library and a few days later, they would be transmitted. Because of the number of requests from the sites and limited satellite transmission time, the idea of a totally responsive system was not feasible. Films were selected and transmitted on the basis of general priorities across sites. This modification in the operation of the MDS was well accepted at the site and a videocassette recorder and eight hours of videotape were acquired for Site A participation.

All MDS materials were recorded and retained for two to three weeks at Site A. At the end of that time, a new MDS product was dubbed on the tape. Teachers were made aware of the available MDS products through a bi-weekly newsletter and "sign-up" sheet circulated by the site coordinator in the teacher's lounge. The teachers' acceptance and use of the materials was high. Their use of the materials was facilitated since the viewing room was available each afternoon from 1:25 until 3:00 and a high school student was present during that time to handle the equipment. Greatest use of the MDS material was made by the primary grades, followed by 7-8 grade science, health and math, and high school science, history and social studies.

While use of the MDS material was high, it varied among personnel. Some teachers were more predisposed to use film material than others. However, teachers using MDS materials indicated a preference for videotape presentation over conventional film and slide projectors. Similarly, they expressed strong approval of the quality of the MDS materials received.

Evening Programming

Prior to the first evening ("Footprints") program, more than 400 letters were sent home to parents. A letter was also incorporated in the school newspaper; posters were put up in the school and elsewhere in the community; and articles appeared in the newspapers in surrounding communities. The results of this effort was disappointing. The program was attended by 13 people, seven of whom were school staff. While one of those attending (a school board member) indicated general support of the program (which was about mail-catalog ordering) most felt the program was somewhat flat, not too pertinent and disappointing in terms of interaction. The second program in the series had about the same number of attendees. However, this pattern changed markedly for the third program in the series which was titled "The Great Land Race" and concerned resource development.

Because Site A is extensively involved in strip mining and is growing rapidly, the topic of the third program generated great local interest. The topic kindled the interest of all factions of the community: the ranchers and environmentalists, the public power and mining interests, and other school and community personnel. Interest was further heightened by the STD decision to involve an "environmentalist" representative from the community in the program's panel. The site coordinator advertised this person's participation in the regular pre-program releases.

The combination of community interest in the topic and local identification with one of the participants resulted in some 75 people attending the program. Because the local attendees represented competing viewpoints (industrial development versus environmental protection), it is not likely the "Footprints" program would have managed to please all of them. They came hoping to discuss their perceptions with knowledgeable persons outside their community. Instead, they observed a program based on the experiences of a Wyoming "boom town"--a town many of them were familiar with and a number had lived in before moving to Site A. During the interaction period that followed the program, a representative from the local power plant explained steps his company was taking to minimize negative community impacts. The local environmentalist, who was a panel participant in the Denver studio, just began a reply to the industrialist's comments when program time ran out.

This abrupt ending was perceived by the local audience as an attempt by the STD to censor the reply and they were very upset. The state coordinator who was in attendance tried to implement follow on discussion activities, but failed to get participant involvement.

The people who attended this "Footprints" program went away quite disappointed. This is evidenced by an incident which followed during preparation for the subsequent program. One of the teachers who assisted the site coordinator by putting up advance posters on the coming evening program, was refused permission to put up a poster on the local mine's bulletin board. The mine manager indicated that he felt the previous poster had been misleading and he did not want further advertisement on the premises. This was an extreme instance; most community respondents indicated disappointment but no hostility toward the program. However, after "The Great Land Race" program, attendance dwindled to as few as two or three persons.

Summary of Events for First Semester

Site A approached the first semester's programming with high expectations for the products, services and the delivery system. Generally speaking, two of the STD products--"Time Out" and the Material Distribution Service lived up to their expectations. However, two other STD products--in-service and evening programming did not. Participants were extremely pleased with the quality of video reception, generally disappointed in the technical and content quality of the interaction, and somewhat disappointed with the nagging problems they experienced with their videotape recorder.

Participation in the STD brought Site A considerable attention from school personnel elsewhere in their state. During the first semester, the superintendent was contacted by seven other school districts regarding the STD. The site coordinator and the counselor presented programs on the STD not only to the local school board but they also traveled to two other school districts to discuss the project. Additional interest was expressed by a television station that serves the southeastern portion of the state. A meeting was held in November at the TV station to discuss the possible redistribution of STD products by the station. Representatives from eight school districts were represented at the meeting as were STD field representatives. Procedures were worked out for Site A to dub the second semester "Time Out" series (Mon. - Thurs.) and the "Footprints" series for rebroadcast by the TV station which supplied the tapes.

In independent discussions held at the end of the first semester, the superintendent, high school principal, site coordinator and counselor all expressed strong support for the STD project, believing that the benefits they derived from participation had far out-weighed their disappointments. In their discussion, each of these informants conveyed an appreciation for the exploratory nature of the Project. In this regard, they hoped that some of the limitations experienced in the first semester would be resolved during the remainder of the operational year.

Second Semester

In-Service

The eight in-service broadcasts received by the site during the second semester fared only slightly better than those received during first semester. Since attendance was still mandatory, the programs were resented by the staff. In the words of one teacher, "There has been strong and continued resentment to the in-service programs. Nobody could gain much practical use from them and the last one was particularly terrible." A few staff members indicated they felt later programs addressed more practical topics, but they were frustrated lecture format of most programs.

While the majority of the teachers were negative toward the series, fewer and fewer such remarks were transmitted to Denver. Essentially, they decided to "sweat it out" since attendance was expected. However, as spring activities provided alternatives to attendance, i.e., field trips, coaching, year book, etc., the staff used them to avoid attendance even though "make-up" sessions were available.

Student Programming

Because the STD provided no time break between the first and second semester series, the post-testing activities of the first semester students and the pre-testing activities of the second semester group had to be done at other periods in the day. The site coordinator, who was both enthusiastic and resourceful, was able to create a "make-do" schedule during the transition to complete the required testing.

The transition from first to second semester involved new groups of students. The second semester student population consisted of one class in each of grades seven, eight and nine. The site coordinator and career development teacher taught the seventh grade and eighth grade classes and a high school history teacher taught the ninth grade class. The teachers and counselor agreed that the students generally liked the "Time Out" series. "Job clips" and "Crossroads Corners" continued to be the most accepted segments while the theatrical elements of the series seemed to be least accepted, particularly by the ninth graders. The ninth grade teachers believed that even if a student personally liked the theatrics, peer pressure would prevent him from identifying with it.

An unanticipated situation developed during the second semester as a result of pressure from the first semester student participants. Students repeatedly came to the high school counselor to discuss their AIT profiles, (a profile of attitudes, interests, and temperaments taught in "Time Out") and job requirements. Because of such high student interest, the counselor established an afternoon period each Friday to meet with these junior high school students. The counselor also acknowledged that he had received some inquiries from 10th, 11th, and 12th graders asking why they weren't given an opportunity to view "Time Out". Thus, "Time Out" stimulated student interest beyond the participants. The librarian also indicated she had observed greater use of career-related materials by students participating in "Time Out."

The interaction portions of student programming appeared to improve technically, but the content of most discussions did not generate much student attention or acceptance. Two exceptions to this pattern were observed. In the last few Fridays, local sites were given the opportunity to plan and develop local programs that the STD would transmit. The opportunity to see other participating schools and some of their school and community activities, stimulated the interest of Site A students. Similarly, when given an opportunity in the last few days of programming to rate and react to programs during transmission, student interest was high. Site A was also control site for experimentation with the STD's digital response system which was tested late in the school year. The Site A students used optical "mark read" cards to respond to questions superimposed on the video screen. This activity enhanced student attention and involvement.

Materials Distribution Service

Use and acceptance of the MDS materials continued to accelerate throughout the second semester. The elementary principal modified the site coordinator's schedule to provide additional viewing time. He also explored the possibility of renting an additional videotape recorder and monitor but found the cost prohibitive. The site coordinator indicated that teachers were beginning to express alarm that the materials would not be available during the coming year due to a shortage of sufficient videotape to record the entire MDS library. Another problem developed when it became apparent that local schools would have to pay the copyright fees for use of materials after July, 1975. The Encyclopedia Britannica field representative talked with the superintendent about this problem, but he felt the price was prohibitive for his district's resources. Thus, Site A planned no future use of the MDS films.

Evening Programming

As mentioned above, the third program, "The Great Land Race," was a black eye for the "Footprints" series at Site A. Attendance at subsequent programs was negligible with only a few attendees, mostly those brought out by students through their "Time Out" participation. The situation was frustrating for the site coordinator and counselor who had worked together to obtain community participation in the early programs. As the coordinator said, "Since 'The Great Land Race,' we have been less vigorous in attempting to get people out--but they wouldn't have come anyway."

Comments among those who viewed the programs were generally supportive; however, they also indicated that these were the wrong programs for their community. They thought the programs should not attempt to emulate "the CBS Sixty-Minutes," but should be devoted to skill building. Three different informants cited the Emergency Medical Training series, partially sponsored by the Federation of Rocky Mountain States, as an example of the type of "community" program they thought would be successful. The medical series was presented on seven consecutive Saturday mornings, and had a carefully designed program to develop awareness and skills among a specialized audience. According to the informants, these are features of a community program which would build an audience.

Summary of Events for Second Semester

The second semester did not bring many changes to Site A. Things which had been generally accepted such as "Time Out" and MDS continued to generate acceptance. Similarly, products which had not received favorable acceptance during the first semester, in-service and evening programming, continued to stimulate adverse reaction.

A decision by a TV station serving the southeast portion of the state to rebroadcast "Time Out" and "Footprints" made it possible for five other schools to participate in the "Time Out" series. This effort created additional responsibilities for the site coordinator who had to record and mail the STD products to the TV station. However, it also generated greater interest by the station in the Site A school and greater communication among the schools participating in the "Time Out" rebroadcast.

Site personnel generally expressed confidence in the Project. Repeatedly, they indicated that they felt the communications and support they had been provided had been good, particularly as it related to the many changes which occurred during the year. However, they felt that any future effort should give higher priority to keeping school board personnel informed through information releases and presentation of relevant data. Site personnel also believed that future efforts should direct more attention to involving classroom teachers early. Specifically, teachers should be informed of what is being offered, what objectives are to be accomplished, and what the local participation requirements are.

While not all STD products and services were well received, all site informants within the school and community expressed support for the Project and disappointment in its termination. In this regard, they were relieved to learn that the communication equipment would remain at the site, although the satellite was to be moved to serve India for a year. They are hopeful that with the satellite's return they can again become a participant in some type of satellite related endeavor.

SITE B

Selection

The selection of Site B was determined by the Colorado State Department of Education with final approval from the regional staff of the STD. State department personnel had already established a long and successful relationship with Site B and its superintendent. They were pleased with the local leadership, initiative and follow through that the school district had exhibited on past occasions. They also perceived the site as representative of rural "western slope" interests of the State and felt it would represent schools with a reasonably high economic base. Furthermore, they perceived that staffs at both the elementary and high school levels would be willing to get involved in STD-related activities.

For these reasons, the State Department of Education had given Site B a prominent place on the list of potential and recommended sites that was submitted to the STD Utilization component in December, 1972. Within a month, representatives of the STD and a newly selected state coordinator met with superintendents and other school officials from potential western slope STD sites. The superintendent of Site B was in attendance. The purpose of this meeting was to provide an orientation to the STD, to establish preliminary contact with potential sites and to plan for subsequent local visits.

When the superintendent of Site B expressed preliminary interest in the STD, a local visit to his school and community was conducted. This visit by the state coordinator and STD personnel confirmed the earlier perceptions and recommendations of the State Department of Education and participation status was given to the site.

Preparation

In the fall of 1973, the state coordinator collected school and community demographic data and interviewed a number of people regarding their preferences for in-service and supplementary programming. Similar contacts were made through the fall and winter as STD data needs, generally of a technical nature, surfaced. In the spring of 1974, STD-related activities markedly picked up. These involved technical, curricular and staffing considerations.

Technical matters were initiated by the site which submitted a request to modify an existing grant enabling them to purchase the VTR and color monitor needed for participation. The site receiver, transmitter, and antennas were installed in three sequential visits by STD crews. In their initial visit in May, 1974, they installed a protective fence, the antenna, and necessary lead-in wiring to the classroom. On a mid-summer visit, they returned and hooked up the site's console, made several tests, and showed the newly selected site coordinator how to operate the station and hook up the VTR when it arrived. Later in the summer the VTD technical crew returned to install digital transmission capabilities, to hook up all equipment, to make final test transmissions, and to deliver and install an Advent (large screen) TV projector. Because the amphitheater classroom for TV viewing was particularly suited to the use of a TV projector, the site had agreed to experiment with an Advent projector in conjunction with their regular TV monitor.

The installation of the site equipment went particularly well. Local people were involved in directing STD installers where they wanted the equipment located and in providing access to overhead areas. Orientation to the technical operations was thorough and adequate and was facilitated by the site coordinator who possessed broad HAM radio experience and grasped the technical requirements quickly. Similarly, the teacher who would also be working with the equipment had for many years been a high school physics teacher. Thus, both site personnel were technically oriented.

From a curricular standpoint, the Demonstration seemed to fit into existing plans at the high school. Career education was one of the district's goals as specified in a recently created state accreditation contract. In that contract, the goals were spelled out quite clearly for accountability purposes. Thus, in the spring of 1974, it was decided that all 56 ninth graders would be divided into two classes to participate in the Demonstration--one class for fall semester and one class for spring semester. Plans were also formulated for the elementary schools' participation in the MDS effort which would necessitate moving the elementary youngsters to the high school for program viewing.

In terms of staffing the local STD effort, it was decided that two people would be involved; one primarily for technical operation of the two-way audio capability, and the other to handle instructional and promotional activities.

These roles were solidified at the pre-service training session both attended in August shortly before the operational period began.

Superintendent

The superintendent had a record of continuous involvement with grants and studies relating to the needs of small, isolated schools. Comments from other school staff and community people indicated he had demonstrated effective and influential leadership in the school and community. He was highly respected by school people throughout the state and region and was consulted frequently by fellow school administrators. Until recently, he maintained the practice of teaching in the classroom at least one period a day to keep close contact with his students and the instructional process. He provided school services which will prepare children to compete in the world and supports his teachers with new programs and materials; "I only ask that they be justified through use."

In summary, the superintendent was an effective and respected educational innovator. He was sensitive and aware of the problems of school isolation and the impacts that it can have on students. He welcomed the Demonstration and its experimental nature as a creative way to overcome some aspects of rural isolation and encouraged his staff to take advantage of the opportunities the Demonstration provided.

High School Principal

The principal came to the district several years ago as a teacher, but only recently was promoted to principal. He was supportive of the Demonstration throughout the site's preparation phase and made the necessary scheduling, room, and staffing accommodations to facilitate the site's participation. Although a good organizational climate existed at the school, things seemed to run as a matter of procedure which the principal monitored rather than lead. He encouraged the school staff to become involved in the STD, its in-service programs and

MDS service, but actual participation was left up to teacher initiative.

Junior High School Principal

The Junior High School Principal oversees a rather tight organization where a rigid set of schedules and course assignments prevail. Innovation and creativity were generally limited to individual teacher activity unless institutionalized by prior faculty agreement. The external demands that participation in the STD made seemed to threaten the school structure and some resentment prevailed when it was so easily assimilated into the high school. No evidence of administrative support for the STD was given by the principal; teacher involvement in in-service, MDS, or "Time Out" related activities was unanticipated.

Elementary Principal

The elementary principal was an established administrator in the district. He saw his role as supporting teachers in accomplishing their tasks. He was very enthusiastic about the Demonstration, particularly about the MDS and teacher in-service and planned to devote much time personally to bus children on field trips and to the high school for MDS participation. The MDS catalog was, in his opinion, the best he had ever seen. The elementary principal was a strong advocate for the Demonstration in both the school and community during site preparation.

CD Teacher

The instructional role as career development teacher was assumed by an experienced teacher of high school physics and electronics sciences. For several years, he had been taking courses to qualify for a position in counseling and guidance and had become a very devoted counselor and promoter of career education. He enthusiastically accepted the challenge of being the career development (CD) teacher because he wanted to be involved in making the high school more responsive to student needs. For Demonstration involvement, he was released from all academic classes to facilitate the organization of a career guidance program for each high school grade level. Freshmen were selected for direct participation in the STD while classed at other grade levels were designed to be informal, seminar-type meetings in which the CD teacher imparted information and students expressed questions and needs. The CD teacher was devoted to the total high school program and assisted with sports, music, and student government. His interest in the school, in its students, in career development, and in science was integral to his successful functioning with the Demonstration.

Site Coordinator

Site B was somewhat unique in that it possessed a staff member who was competent in electronics. He was a one-man district audiovisual department in addition to teaching an electronics course at the high school. He was selected to be site coordinator because of this expertise; the instructional role was turned over to another teacher. The site coordinator learned quickly about the maintenance and operation of the Demonstration equipment and devoted much time to recording the MDS programs and keeping the equipment in the best operational condition. He was not at ease doing promotional activities so these were assumed by the CD teacher. The site coordinator was very excited about being a part of the Demonstration. In his words, "It's like being part of a moonshot."

School Climate

Initial data from staff members indicated they perceived the school relationship average to good. Relationships among teachers and between teachers and administrators were rated good to excellent. However, the local teacher organization seemed to have relatively little influence on community or school policy but frequently tended to support school policy. Teachers perceived some uniformity in the school in the introduction of instructional innovations, handling of school discipline and handling of grievances. Local teacher initiative seemed most prominent in daily class planning, teaching methods and evaluation practices. As they approached the operational period of the Demonstration, most teachers and administrators were quire supportive and felt it would be a viable way to provide a career development program without a large investment of local educational resourses.

First Semester

Prior to receiving the initial programs, considerable local effort was invested in obtaining "base line" data from students and staff. Inquiries from the school staff indicated they were looking forward to participation in the Demonstration and felt reasonably comfortable with their general awareness of its products and services. Since their later reactions may have been influenced by key people at the site, a brief review of roles and responsibilities is provided.

In-Service

Although participation in the in-service series was voluntary, the superintendent encouraged participation by indicating to staff that the programs might help the district teachers -lan and prepare career instruction necessary to meet the state accredation and accountability requirements. As a result of this encouragement and because credit was offered by a nearby Utah institution, eleven teachers representing the high school and elementary school participated. Because of the involvement of many of these teachers in after-school sports programs, they were given an opportunity to view the broadcast live (generally 3-5 teachers) or to view a tape at a convenient time during the following week.

School administrators who did not take the in-service course, held high expectations for the contributions they expected it to yield. This was particularly true of the elementary principal who had three activist teachers involved in the course. He indicated that they were attending to get new ideas to enhance the school curriculum. Later in the semester, these teachers formed an ad hoc committee to select materials for the elementary school career instruction--a direct result of their in-service course involvement.

When queried in late October about the series, the participants' responses were enthusiastic. They indicated that the summary sheet sent along for each broadcast was very helpful in introducing viewers to the presenter and to the topic and useful in structuring notes as the broadcast progressed. One teacher said, "I found the broadcasts very helpful. There are opportunities to use ideas suggested by them immediately in the classroom." Another said, "I would never be involved with them (the presenters) on such a personal basis. You feel like you are almost sitting at their feet. Technology has great possibilities for future activities of this kind."

Late in the first semester, the comments and interest seemed more routine. The full effort of the time involvement and college credit requirements were being felt. One teacher said:

> The in-service is time consumign but not difficult. We have to view all broadcasts and write a description of how to implement a career education program into our class and level of students. My interest and attention really lag when I don't get the flyer a few days before the broadcast. The interaction audio quality is very poor and distracting; however, the use of the studio audience seems to get around this problem in that they frequently ask questions I wanted answered!"

In general, the participants accepted the programs, appreciated the opportunity to obtain college credit, and were pleased to be involved in an experiment. Although the quality of content and useful information varied greatly from program to program and from presenter to presenter, this seemed to be an expected outcome for a college course and a lecture format.

Student Programming

As noted earlier, school administrators and the school accountability committee held high expectations that the "Time Out" broadcasts would meet state career education demands. Thus, student reaction to the series was closely monitored. The high school principal noted the following change in student viewing behavior: As the series began, and for several weeks, there was an awe about the class and the presentation. Distracting glances, whispering between students, and other overt behavior was almost non-existent. However, by December, a number of distracting behaviors could be observed, suggesting the newness of the situation had worn off and "Time Out" was just another class. Students had become very discriminating and paid avid attention to certain program segments such as job clips or "Crossroads Corners" and rejected others as evidenced in the two selected observations that follow:

> The program had very high attention until the clown pantomime when about 30 percent began to do other things. The pantomime seemed to show very little visually. More of the class lost interest because of too much verbalization. As these segments ended, students made negative comments to one another. About 20 percent of the lost viewers returned when the "Crossroads Corners" segment came on.
>
> This was the last regular broadcast in the J-Series for the semester. The first portion and "Crossroads Corners" held attention very well. There was hardly any noise or extraneous conversation. A real break was noted when "Aunt Frumpy" came on. There were very audible groans as her dialogue unfolded. Frequent laughs which seemed to express dislike, disinterest, and a distaste for the segment were heard. Frequent verbalized comments seemed to connote a "making fun" of the characters. A great deal of talking with neighbors and working with books or papers was observed. As the section proceeded, frequent giggles and other expressions of insincerity and boredom became more prevalent to the point that hardly anyone was seriously watching the presentation.

The interviews of 12 of the CD students over the first semester reflected the observed reactions to various segments; however, nearly every student expressed a preference for the televised material in comparison to a regular high school class. It was more fun, more varied, and got to the point better then teacher-directed (talking) classroom experiences in Englush or Social Studies. The students expressed a realization that they had learned about decisions and decision-making and found the skills useful in their everyday experiences. Some indicated they had not really thought about alternatives when faced with a choice. Now they were creating alternatives or delaying a decision until they had considered several alternatives. Most students discovered a planning skill which they used in choosing the classes they would take next year or in high school. Consideration was apparently being given to taking classes which would help with a possible career field rather than "easy courses." Students also indicated an awareness of ways to prepare for a career other than going to college and that it was possible for people in small towns to train for jobs in big cities.

The daily attendance in the CD class was the best of any class in the high school. Even the students who tended to "skip" other classes during the day were present for the broadcasts. This seems to suggest some motivational factors of TV, careers, or the more relaxed classroom environment. Here are some recorded interviews with participating ninth grade students:

> I got a lot out of the TV broadcast and like it quite a bit. I like to mess around with the equipment. I don't like to just sit and watch the program. I like to work on ranches and there hasn't been too much about this job. I prepared a term paper for English on being a park ranger. I got the idea from watching "Time Out." I have learned about many different jobs from the class. I like Crossroads and the monsters best. The program has caused me to think about how I make decisions and some of the decisions I must make about jobs. I used the decision process to help decide where to set some animal traps last week. I like the Advent Projector because it makes the little things you can't see too good on the monitor larger and clearer. I do watch the regular TV monitor quite a bit because where I sit, the light washes out part of the big screen. (Male student)

> I liked the satellite class. It's fun to watch a television instead of listen to a teacher. I think I learned more. I liked "Crossroads Corners" the best because the people were so real. They have the same problems I have and the place seemed so much like our town. It seemed it could have happened here. I use the student magazine to preview what the program is about. I usually work the puzzles without waiting for the day or broadcast. I did not like the way "Dr. DOT" acted. He really turned me off by talking too fast. It seems he is getting better (more tolerable) but my first impression still effects the way I watch him. I have learned a great deal about jobs and occupations. I didn't realize there were so many. I have been trying to decide among some of the areas. (Female student)

Site B has had reservations about the audio interactive capability for the six-minute daily "Time In" and Friday programs. The CD teacher frequently made use of this time by having the students prepare their daily reactions or, if a more appropriate class activity was available, "Time In" was turned off. However, if Site B was to be called during interaction, studetns had questions ready. This part of the interactive capability was very motivating to the students who were organized into two teams to generate questions which were asked by a team spokesman. Roles were routinely changed so that everyone who desired to operate the site microphone had an opportunity. Here is a typical "Time In" observation:

> There was a great deal of student talk and organization (by students) to get questions ready for "Time In." When the site was called, a student responded and asked a question. As the question was asked, another student turned the volume down on the monitor and the Advent projector. After the reply by Karen, (the narrator), two other students were waiting to ask questions, but were never given the opportunity. The four or five students operating the interaction equipment were very much involved but the rest of the class seemed almost disinterested in the interaction session. Following the site's turn, the class became disruptive with only two or three students watching the remainder of the interaction with other sites. When "Time In" was over, the CD teacher brought the group to order, handed out the student cards, and read off the items to be checked for today's program. As the cards were handed back, CD teacher instructed three boys to lower the antenna 3½ inches in preparation for the MDS broadcast. There was a great deal of enthusiasm to do this task.

Samples of the student programming were shown on several occasions to adult community leaders such as members of the school board, accountability committee and a service club. The general reaction was one of very positive acceptance and delight that they were involved in the Demonstration. Here are a few sample reactions:

> I like the STARTREK (futuristic) theme of the program. I think this really appeals to the futuristic goals of the career interest and to the junior-high-aged student.
>
> I'm amazed at the quality of the video picuture after the poor TV reception we get locally. We are very fortunate to be a part of the Demonstration.
>
> It is unbelievable what things one can see on the large screen (Advent). A lot of the details are very clear. In using it for Monday night football, you can see all kinds of things like kicks, punches, and elbowing between team members that are missed on the monitor. The large screen makes you

> feel like you are really there. Because the cameraman is on the action all the time, you see much more of the game than if you had a 50-yard-line seat.

The Friday programs were viewed until the students got bored. The CD teacher felt the students should participate for the sake of the physics and space concepts involved and to learn to operate the site equipment as well as for any career information. Two programs about the Demonstration and about the satellite were well received. The others were tolerated and usually ended in being interrupted after 10 or 20 minutes in favor of a local class discussion or assignment.

The general reaction of the instructional staff to the Demonstration was one of interest and confidence in the provision of a new course to meet school district career education objectives. No routines were upset and the students seemed both to learn something about careers and to be enthusiastic about attending class and assisting others by sharing information or operating the VTR for their class to see an MDS film. By late fall, plans were already being formulated to use the series in future career classes. Ideas ranged from the selective use of the program three days per week combined with local experts, field trips, and in-class assignments. Some thought was given to re-grouping the decision-making and AIT parts together in separate units for the juniors and seniors. Time problems were perceived because the classes would have to depend on the regular high school teaching staff without outside support from the Demonstration.

Materials Distribution Service

This part of the Demonstration had the widest response across the schools and community. Each demonstration to public groups always included a sample of one or more MDS selections and the explanation that the videotapes were available for students and community to use. The materials distribution service was seen as a boon to the educational offerings of the school since the community does not receive a public television channel.

Nearly half of the community people interviewed had either seen an MDS program or had children in the elementary or high school who had seen them as part of class work. These students seemed to be motivated to tell their parents about the experience and the MDS technology as well as about the content of the presentation. The extensive use of the MDS programs by the elementary staff aided in community acceptance of this program. Several times a month, every school class was bussed to the high school to view films selected by their teachers. The enthusiastic response is reflected in these excerpts from interviews:

> As a Social Studies teacher, I make frequent use of the American History, Geography and World Events films that come over MDS.
>
> Efforts are being organized to include a VTR player and TV monitor for the elementary school in next spring's budget and equipment allocations. The appropriate MDS tapes are to be recopied to have two sets--one at each school--and to separate the three (or so) films appearing on each tape.
>
> The teachers' reactions to MDS have been real good. We submitted an order for 50 more films at the elementary level just the last week. The whole staff was involved in preparing the recommendations. I myself enjoy driving the bus to the daily MDS showings and operating the equipment because I get to see what the children are looking at and what their reactions are.
>
> As a third-grade teacher I find the MDS a very useful tool in language arts to provide the children with a common topic to write and talk about. We come every Tuesday to see two films usually in science or social studies.

The only negative responses to MDS came from the junior high school where the principal had not used or supported his teachers in the use of MDS because he thought the transportation of students between two schools was too much trouble. Similarly, the junior high school principal provided no support to the "Footprints" or in-service broadcasts nor to any planning effort which might generate interest in VTR equipment for the junior high so that students there could have access to MDS materials being taped.

All STD programs were taped by Site B for additional future use. Each week a list of available titles was published in a tape library that was established. MDS, CD, in-service and "Footprints" tapes were organized and numbered with a session number so all teachers could use the tape library; session numbers were keyed to the MDS catalog for a more extensive description of content.

A sign-up schedule was maintained by the CD teacher with at least one MDS viewing and sometimes up to five classes scheduled in a single day. The CD teacher used students participating in the "Time Out" class to assist in setting up MDS tapes for later showing. In this way, the next teacher had only to depress the play button to start the MDS film. Rewinding and refiling was done by the site coordinator, CD teacher or trained students.

There was very high acceptance and enthusiasm for the videotaped materials. The technical quality was excellent, the content up-to-date, and there were no problems in showing them to classes. The equipment always worked and ran quietly. A preference was expressed for the quality of video materials over the quality of rented films.

Evening Programs

Prior to the first evening program, an extensive article appeared in the local newspaper listing the ten programs, a brief description, and an outline of the Demonstration. The CD teacher announced the broadcast to students in "Time Out" and to members of the in-service classes; he also put up posters and had flyers distributed on the afternoon of the broadcast to downtown parked cars and to businesses. This resulted in 10 persons attending the first "Footprints." Although the audio interaction was poor, the audience was attentive and enthusiastic; but not overly motivated by the topic which was consumerism.

The second "Footprints" program on interpersonal relations was also widely advertised including involvement of the local mental health committee who mounted a telephone reminder campaign. About 20 persons attended the broadcast session and were active in asking questions of the panel. Since many people could not attend because of conflicting activities, the broadcast was reshown to the Lion's Club and the school accountability committee; reactions from these groups were very positive.

The third program titled "The Great Land Race" stirred a great deal of interest because of recent coal and oil shale developments in the vicinity of Site B. Unfortunately, the broadcast evening competed with a rather busy community calendar and only 20 persons were in attendance. Much discussion was generated after the broadcast. This program and the two before it served to generate some new school/community relationships and caused discussion of future possibilities among community leaders as evidenced by the following comments taken from interviews:

> I'm excited about the STD idea. I'm scheduling a tape showing of "The Great Land Race: for my whole staff (N =10) because most of us missed the live broadcast because of other commitments. Programs and opportunities like this will help break down the isolation. The career programs at the school are also helpful for bringing our children in more contact with the real world.
>
> I was aware the school was receiving some type of special program, but not sure just what. The Lion's Club had a special meeting on Monday night and we saw some football and "The Great Land Race" program from tape. I think this type of activity is great for areas out here away from the main population centers. I'm going to remember the next program and go.
>
> The reaction to the "Footprints" is good. A number of parents have commented on the programs.
>
> After viewing several scripts, I got to see the actual production of the "Time Out" broadcast. The STD staff has done remarkably well in carrying out the scripts and using the abilities of available artists. I also saw the "Footprints" program on "Communication" with the local accountability committee. I thought this was an excellent program for them to see.

The remaining "Footprints" broadcasts for the semester were shown on nights that conflicted with a community program, and thus, attendance was negligible even though newspapers, posters and flyers told of the events. These programs were later shown prior to the "Footprints" programs during the second semester.

Summary of Events for First Semester

The high expectations the school and community held for the Demonstration were generally realized. The quality of the video signal and color intensity of STD programs surpassed that provided locally by translator. All four of the Demonstration broadcasts were utilized by the site. Their enthusiasm was greatest for the MDS followed by "Time Out," "Footprints," and in-service.

The formative and experimental nature of the first semester programming was accepted and data was actively collected by the CD teacher. The program improvements occurring toward the end of the semester in the "Dr. DOT" sequences of "Time Out" were recognized, but seen as coming too late.

Strong support for the STD was expressed by school staff and by students, even though the amount of local staff time necessary to support STD had been grossly underestimated. Adjustments were planned for the second semester to make available the extra time necessary. The general feeling was, "This is the best project we have been involved in. It's really delivering what it said it would!"

Second Semester

Several considerations not present first semester assisted the Demonstration during the second semester. All local people had been shown the STD products. The site coordinator and CD teacher were experienced with the equipment and materials. Estimates of time involvements were accurately made and the operation was streamlined to provide the CD teacher with more time for guidance and counseling of students.

In-Service

The last program of first semester and the ones following in the second semester received less acceptance than earlier ones as the newness of the series diminished. The general reaction was best expressed by the high school principal when he said:

> The teachers' attitudes are changing about in-service; however, they feel the general exposure has been an excellent experience. As a college credit course, one must expect that all sessions are not going to 'turn everyone on.' Those participating seem to gain a lot from the course and have shown this in their discussion and actions.

Concerns that were expressed regarding the course related to its length (carried over two semesters), its insufficient practical content, and lack of involvement bv the credit-granting institution. The teachers thought that the credit-granting institution didn't follow the broadcasts and was unaware of the course content and thus not able to supplement discussion. Concern was also expressed for final grading because the college instructors were not known to the participating teachers. Although in-service participants expressed interest in future college credit courses, they wanted several changes to occur. These included more practical workshops for in-class projects or ongoing interactive seminars in several subject areas, the creation of concentrated courses extending several afternoons in a row instead of over two semester and greater involvement from the credit-granting institution.

Student Programming

A new group of students was involved in the careers class the second semester although three first semester students who were scheduled to have a directed-study assignment in lieu of the CD class asked to stay in the CD class. A student at the junior high level who was having some personal identity problems was assigned by the CD teacher/counselor to assist in the STD operation. He was made coordinator of the site equipment--a task he carried out very effectively throughout the second semester.

There was evidence that first semester "Time Out" students had passed on their preferences to second semester students, particularly their dislike of "Dr. DOT" segments. Consistent with the previous students, the second semester class preferred job clips, "Crossroads Corners," and "Time Control Central"; however, more of these students expressed acceptance of the theatrical "Dramatic

Reading Society," the puppets, and "Aunt Frumpy." The students looked forward to the weekly acceptance test as a way for the STD to know how they felt about the series and its various segments. Greater acceptance was also observed for the student magazines. Students were seen using them before the "Time Out" class and in directed study periods in other parts of the school day. Students expressed a preference for the "Time Out" class in comparison to other school classes because it was easy, had variety, and had a more relaxed climate than a lecturing teacher.

The major difficulty seemed to be with the interaction sessions, "Time In" and the Friday "Time for You" programs. Students found it difficult to maintain interest except when Site B was interacting and the CD teacher expressed difficulty in maintaining order or continuity because of the lack of advance information about the program. He indicated that these programs have generally not been applicable to the career class. No teacher materials were available to help correlate and integrate these programs with the rest of the series. He usually started out with the "Time for You" broadcast, but turned it off because the students' behavior indicates that they were bored and uninterested. A class discussion or use of the Dictionary of Occupational Titles was substituted for the broadcast.

Site B participated in two related events during the second semester in which a prototype digital student response system was set up in the CD classroom. Seven students were instructed to respond to selected questions while watching the programs. Student interest was particularly high if they were selected as one of the seven participants. Observation revealed that students' active attention was enhanced for those who were operating the digital pads in comparison to those who were passive viewers. Excitement was also observed when the weekly test was administered on the digital response system. The students expressed verbally and non-verbally their delight at the confirming right-wrong light on the digital pad.

Consideration for the use of the "Time Out" series next year crystalized. Using the tapes, the series will be presented as it was this year with local classroom activities in place of "Time In" and Fridays. The present CD teacher will teach the course next year providing a familiarity with the materials. A nearby school district will also use the tapes for a career class in their school and a cooperative training arrangement has been made between the CD teachers in the two school districts to convey needed orientation information.

Materials Distribution Service

The use and acceptance of MDS by the elementary and high school teachers was maintained throughout the year. The elementary principal supported a daily bus run to take children to the high school to see films. He also requested a VTR in a Title I proposal for next year so the equipment would be available in his building.

The superintendent made contacts with several surrounding school districts to work out a cooperative arrangement to purchase the permanent copyright to the MDS library from Encyclopaedia Britannica. He also is negotiating an alternative payment plan based on $1.50 per showing rather than a percentage of the initial film cost. An extensive evaluation effort has been requested from the staff to make recommendations for films to be purchased. The CD teacher and site coordinator have suggested some re-recording of MDS tapes this summer to batch subject areas and appropriate grade levels onto one tape. This way, the tape could be housed in the most appropriate school library instead of in a district center.

Evening Programming

Two problems developed with the evening programs that were manifested the second semester. First, the CD teacher provided much less activity and promotion within the community. His perception was that the two programs taped in December and January did not have much appeal. In an effort to get an audience for the

"Super Co-op" program, he invited a number of young farmers. Fifteen attended and were disappointed in the lack of depth in the program--nothing new to them was given. The "County Doctor" program did not meet a perceived need at Site B, with its hospital and three resident M.D.'s and no one came.

The second problem was the lack of community requests for reshowing the programs. The CD teacher did give the tape about the elderly to the senior citizens' group (who have a VTR) for their use; however, no follow-up was made. Although general comments seemed to be verbally supportive of these programs, no significant attendance or requests materialized. There was some feeling by the CD teacher, superintendent, and others that the programs were too shallow in the treatment of the topics and were inappropriate for the needs of Site B. They recommended more practical, skill-building programs on topics such as artificial insemination, practical economics, and issues and techniques for government officials and citizen advisory members. The monitoring, recording and use of the Emergency Medical Training course transmitted by satellite was given as an example of very useful material.

Summary of Events for Second Semester

The second semester resulted in the integration of the career education course into the high school curriculum. The experiences and activity in MDS and in-service continued to receive support. There was a marked decrease in support for the evening programs. The general opinion expressed by site participants was praise for delivering a useful product with very few hangups and foulups. They believed that aid and assistance had been readily available from the Demonstration in both personal attention and answering of questions. The demand by STD for reports and data inputs were preceived as heavy but necessary. Recommendations for future involvement included greater use of the capabilities of the technology, i.e., in-service class demonstrations instead of lectures, the use of digital capability for interactive learning and real-time monitoring of instruction.

Plans have been initiated to make use of the site equipment with surrounding schools as part of electronics and social studies classes, while awaiting the availability of the satellite next year. The school believes that it has profited greatly from its STD involvement, by an increased availability of classroom films, increased technological and audio-visual capability, and by providing a high school career education program with very little expense to the school. School personnel look forward with interest to future involvement with satellite-delivered services.

SITE C

Selection

From the very inception of the STD, numerous representatives from the State of New Mexico were involved in meetings and discussions. This occurred because the President of the Federation of Rocky Mountain States (STD's parent organization) was the former Governor of that state and also because the director of Utilization, one of the early planners, was from that state. For these reasons several early "brainstorming and planning" sessions were held in New Mexico. One of the consistent and very active attendees at these sessions was the superintendent of Site C. Thus, it was natural that his school and community was recommended to the STD in late 1972 for site participation.

In addition to a strong and supportive superintendent, Site C was perceived to have an established school system, represent a stable community, and possess a desirable ethnic balance. Following a series of meetings with the State coordinator and a local site visit by other STD personnel, Site C's participation as ROT (receive-only) site was confirmed.

Preparation

Participation in the STD provided the site with an easy compliance to the State's recently mandated career education requirements. Although career development received early recognition by the entire school staff, planning efforts were interrupted by the replacement of the counselor and high school principal. For this reason, most STD contact with the site during 1973 and early 1974 was with or through the superintendent.

Early in the summer of 1974, the STD technical crew installed the antenna mount and the protective fence and established the routes for lead-in wires. Several weeks later, they returned to install the antenna and complete the wiring. Some problems were experienced with the wiring because of a mislabeled school floor plan. After a minor delay, the installation was completed. Since the site had already taken delivery on its equipment (TV monitor and VTR) these were used to test the installation.

Because many sites had not received their own equipment at that time, the STD technical crew asked permission to take the VTR and Monitor to a neighboring site to test that installation. Permission was granted by the newly-hired teacher/site coordinator. The building custodian thought that the superintendent had given permission and allowed the crew to take the equipment. In conversation with the superintendent the next day, the custodian realized the superintendent had not granted permission. Both the custodian and superintendent were apprehensive about the event. Several days later, the STD crew returned the equipment in good condition and apprehension subsided. This incident established a cooperative relationship with the neighboring site which continued throughout the STD and the two sites assisted each other as needs arose.

During the summer, a new school counselor was employed and given STD site coordination responsibilities. The new staff member eagerly sought to find out what his STD duties would entail. He checked out all new TV and VTR equipment for proper operation and read all materials provided by STD to previous staff members. About a month later, the new high school principal assumed his duties and was informed of the assignment of STD responsibilities to the new counselor. One of their first STD-related responsibilities was to modify the school schedule to begin school one-half hour earlier in order to have STD classes ready to receive broadcasts at 9:15 a.m. This new schedule was a major change from the traditional high school schedule which had been in effect for several years; however, the change was accepted by the high school staff.

Shortly after this schedule change was made, the new site coordinator attended the STD pre-service training meeting. This meeting occurred during the local high school faculty work week giving the site coordinator little time to work out a career guidance program prior to class sessions. Upon his return from the orientation meeting, the site coordinator/CD teacher/counselor met with the high school principal and junior high social studies teachers to arrange for students students to participate in "Time Out." As the schedule worked out, junior high students not in the school band were placed in the first semester group for the STD career class while the second semester group was in a social studies class. The situation would reverse in January to provide the other research group. The last-minute student assignments completed the necessary preparation for the operational period.

Supertendent

The superintendent came to Site C several years ago from a larger neighboring state where he had served as an assistant superintendent. He was considered to be an effective administrator and comments from community people and school staff members suggested that his opinions and actions were highly respected. He was excited about the ultimate possibilities of satellite delivery for small remote districts and wanted to be a part of the development and a receiver of these early benefits. He also promoted these services for similar districts and made preliminary arrangements to provide tapes of J-Series broadcasts on a one-week delay to a neighboring school district so they could conduct a career class.

High School Principal

The principal is a local resident who had served as the vocational educational director of the State School located at Site C. He assumed the present high school principalship a few weeks before school began after being selected from a group of several applicants. The new principal had administrative experience and was well acquainted with the Site C school through the cooperative student exchange program between the public school and the State School. He seemed to be well accepted in his new role by the school staff and community members. He saw his role in STD as both organizer and monitor of career education opportunities and activities to see that the curriculum mandate from the state was implemented in the high school. "They will assist us, but it's really up to our staff to plan and carry out what we are going to do." Since the former principal had assembled a rather stable and talented staff, the transition to the new principal was a matter of accepting a different person to lead the school's established policies and procedures. No great changes were demanded by the new principal and the transition seemed to have been smooth, quick, and total.

Elementary Principal

The Elementary Principal combines the role of a rancher in the community in addition to the administrative duties at the elementary school. He was well accepted and active in the community and had established himself as a competent person interested in providing educational services, particularly to underachievers and handicapped children. The elementary school facilities are geographically divided between an old building constructed during the depression as a WPA project and a new building 15 blocks away. In addition to the regular K through 6 classes, the principal's elementary program staff includes a librarian, reading teacher, and a special education teacher. The elementary principal had high expectations for the STD to provide materials and programming to help promote a career education program for the elementary school. He was enthusiastic about the potential of the Materials Distribution Service.

STD Site Coordinator/CD Teacher

The new guidance counselor heard of the Demonstration while finishing his graduate degree and was enthusiastic about its possibilities. He devoted extensive time to the STD and was identified as its chief advocate within the school and community. He engendered confidence from the faculty and school board members because he assumed the STD responsibilities quickly and easily. Shortly after he was hired, the high school principal appointed him the chairman of the Junior High Career Education Curriculum Committee to plan and implement the first phase of the state-mandated career education program. Similarly, he quickly became involved in the Kiwanis, Masonic Lodge and the church. These memberships and the guidance position at school placed him on the community scholarship committee where he could perform a liaison function between the community groups and the school.

The Setting

The site's quick and ready acceptance of the STD is a reflection of the confidence the local people had in the superintendent and others who made the early negotiations. The openness and freedom to experiment was evident among all staff. Responses on the school staff survey indicate relationships among teachers were rated good to excellent. A good relationship also existed between the administration and staff and between teachers and their community. The role of the teachers' organization was perceived to be a factor in many decisions. Teachers either individually or in groups were also perceived as being able to exert influence. A rather uniform set of procedures had become accepted at Site C in planning, selecting texts, techniques, evaluation and discipline. This general harmony may stem from the fact that Site C has a more mature and established staff than is found in most rural locations.

First Semester

During the week prior to the first broadcast, the site coordinator conducted pre-testing activities with the students, distributed school staff questionnaires to determine staff perceptions of the school environment and their entering expectations of the STD, and began enrolling teachers in the in-service course.

In-Service

The in-service series was viewed from the start as making a positive contribution to the local curriculum by providing the background, concepts and expertise needed by staff members to plan and execute the state mandate for career education. Appreciation and awe were common reactions to the programs. The second program was attended by 25 teachers. This second broadcast was also reshown to a local service club as a part of an STD presentation. At the request of viewers, the presenter of the second show was invited to be the spring commencement speaker.

Although reactions over time varied across programs from very high to very low, attendance generally ranged from 11 to 15 teachers who continued to express appreciation for the concepts and ideas they were receiving. Several class projects and activities were directly attributed to their involvement in the in-service course. Some activities are illustrated in the following interviews:

> As a result of the teacher in-service course, I have instituted research in various careers as part of the English class. The children are asked to use a career as the topic of a report and apply various skills in library research and expression. This activity provides a broad range of topics enabling every student to have a choice and gives them an opportunity to consider their own future. Teacher (7th grade English)
>
> I find the "Careers and the Classroom" broadcasts a valuable experience. I have used a number of the ideas and concepts in my social studies presentations to sixth graders. I am now considering career awareness as a part of my social studies curriculum. Although some presenters have been better than others, they have provided excellent ideas and concepts to use in class. The presentations have given me a new lease on teaching and living. I just see so much in possibilities and realities I would otherwise miss. It's amazing that we can sit here in (Site C) and get information and motivation to do a better job of teaching. I'm really concerned about continuing this kind of in-service next year. Teacher (6th grade Social Studies)
>
> The in-service broadcasts have caused me to consider additional parameters in job selection such as the physical requirements, the environment of the job, and the temperaments of the individual. I had not really considered these until they were suggested in the broadcasts. As a result of the in-service, we decided to survey the students' parents to identify individuals that could serve as occupational experts. I'm sure there are a lot of "hidden" talents and experts right here in Site C that could help broaden our career offerings and insights. The class has prepared and

> sent out a questionnaire and is beginning to compile this information from the community. We hope to get the Kiwanis Club to assist us. Teacher (5th grade)
>
> I find the in-service program the only one that has been offered here in a long time that is worthwhile, We are really tired of in-service sessions that waste our time. Granted, you have to take some ideas to the broadcasts, but you are nearly always "fed." You come away with a broader outlook on life and how to begin to deal with classroom problems. The presenters have caused me to look at my students and my teaching from a new perspective. Teacher (Senior Business Education)

The elementary principal was the only district administrator to attend in-service. He expressed a concern that more teachers ought to be involved--even if the program is voluntary. He indicated that some programs were outstanding and others were "real bummers;" however, he saw the series as a way to develop a common background and a basis for planning the district's career program.

An observation of a teacher in-service broadcast (one of the "bummers") revealed that the teachers watched the program intently and followed the outline provided. As interaction began between the intensive, two-way sites, the teachers began to talk with each other simulating closely the interactive discussion being viewed on the screen. An extensive spontaneous discussion followed the program with half of the viewers actively participating. Some concern was expressed over the lack of practical classroom activities in this particular program. Only after the site coordinator interjected an announcement of a coming "Footprints" did the discussion begin to abate and to break up.

Consistently, the first semester reaction to the in-service series was that the programs were good, thought-provoking, and that this kind of stimulation was needed by teachers working in remote areas.

Student Programming

Expectations of the "Time Out" student programming were high. The school had made several adjustments in schedule and class assignments to accommodate the broadcasts. The eighth grade class of about 27 students served as the first semester class; membership in the class was predominantly Mexican American with only two youngsters of Anglo ancestry.

The class met for 55 minutes each day starting at 9 a.m. This enabled the CD teacher to use the first 20 minutes before the "Time Out" broadcast to discuss the previous day's program and to introduce the program about to be seen. Since the class period ended at 9:55 a.m., the daily evaluation of the program was done hurriedly during the interaction or saved for the next day. Prior to the initial STD broadcasts, the class had a week and one half of class time to collect the initial student data and test the students. Students were particularly receptive to the testing activity because it did not affect their "grade" in the class.

Although "Time Out" had not been developed for the high school level, during the semester, the guidance counselor showed a number of taped "Time Out" programs to an eleventh grade career class as part of his efforts to obtain materials for the class. However, the negative reaction of the eleventh graders to the program formats of space-age travel and puppets caused the CD teacher to stop using the broadcast tapes. These students experienced difficulty in gleaning the career message of aptitude, interests- temperaments and decision-making because of their negative reaction to the program formats and characters which they felt were childish and below their "level." This provided impetus for continued consideration of integrating several career education units into ongoing classes instead of forming a separate class.

Interviews with the students in the "Time Out" experimental class indicated an enthusiastic acceptance of "Time Central" and Crossroads Corners," but a dislike for "Dr. Dot" and "Aunt Frumpy." Several girls had a strong identification with "Crossroads" and an infatuation with the character, Eddie. The students expressed a newfound interest in jobs and reported finding themselves thinking more about jobs and the future. The decision-making process was also noted in most interviews. Students indicated a preference for the TV format over traditional classes in part because of the lack of extensive homework assignments.

The English teacher developed an assignment on letter writing in which the students were to express to the STD how they liked the program. Nearly every CD student prepared a letter and sent it to STD. These were among the first received by the Demonstration from a receive-only site. The students were elated when their letters were read "over the air" on the "Time In" interaction. This one event made the class a very personal event. Here is a sample from one observation:

> They seemed to have a feeling that everything was coming from Denver live, and if they asked a question of Eddie or Ben, these actors would be right on hand to answer it. They seemed surprised to learn that all the programs had been taped ahead and were awaiting the day to be broadcast. The interaction mode also seemed to contribute to this feeling of live presentation. There seemed to be a real interest and vicarious involvement in the broadcasts and appreciation for being a part of the Demonstration. They asked if they visited STD whether they could be put on the air. The observer indicated this was a possibility depending upon when they arrived and the demands upon the studio and program people. Several girls also inquired if Eddie had in fact joined the Navy.
>
> Students were also concerned how their daily program ratings were used to improve programs. The observer asked if they had noted a difference in "Dr. DOT." The discussion revealed he was more understandable, talked slower and wasn't as repulsive. The observer noted that early responses indicated student concerns and that revisions were made in segments filmed later.

Materials Distribution Service

Both the junior high school and the high school staffs became actively involved in the use of MDS products. When a portable stand for the TV equipment arrived in October, even more frequent use was made of MDS because the equipment could be moved to any one of seven rooms in the junior high building. Four junior high school teachers--a science teacher, social studies teacher, and two English teachers made extensive use of the materials. A special education teacher also found the material useful in supplementing the curriculum for students who lacked reading skills. Including the use made by junior high school teachers from the other schools, the MDS equipment was used for three to six showings a day. Use of the material was facilitated by the presence of multiple MDS catalogs distributed among the schools.

Of the three schools, the staff at the elementary school were initially the most excited about the service. When the site was given an opportunity to recommend titles for inclusion in the STD film library, they carefully examined available catalogs and identified some 100 titles they wanted to see. Local limitations, however, seriously frustrated their attempts to use the materials. Principal problems were the limited access to the equipment and the necessity to bus the children 15 blocks to the junior high school for viewing. The elementary staff looks forward to the day when they will be able to move from their current antiquated facility to the present secondary school complex.

As the semester progressed, an increased use of the MDS materials was noted among the English, social studies, history, U.S. government and foreign language classes. This trend coupled with the success of the "Time Out" program at Site C was the catalyst for thinking about the applicability of media to support classroom instruction.

Evening Programming

Expectations were initially as high for "Footprints" as for other STD services generally. Although the attendance was good in comparison with other STD sites, local people were disappointed in the evening programs. Ten persons attended the first broadcast; only a few attended the second broadcast but its subsequent reshowing at the Lion's Club had greater impact. The third broadcast on land use attracted 19 people.

The attendance pattern while comparatively good was quite disappointing to the site coordinator. Prior to each broadcast he passed out leaflets and put up posters; also made use of service clubs and churches. The coordinator believed that he was getting good publicity and people were generally aware of the programs. Observer inquiries indicated that community members were aware and that there seemed to be general interest among school-connected people. Nothing, however, seemed to enhance attendance including the provision of punch and cookies at each session.

Summary of Events for First Semester

The full range of STD products was received at the site with general enthusiasm. The quality of the programs was perceived as high and not having to travel away from the community to obtain them was considered a real asset. Those who attended activities were pleased and excited about future capabilities. The school's overall career education program was being formulated with considerable use made of ideas obtained from "Time Out," the teachers manual, the in-service training and related STD materials. The site coordinator did an effective job with the "Time Out" class and was also able to promote other events including the provision of tapes to the neighboring school district and the establishment of a cooperative relationship with another site which was having some VTR problems. By the end of the semester it was evident that school board members were contemplating changes providing greater support for instruction with mediated material.

Second Semester

In-Service

The level of acceptance and participation experienced in the first semester was maintained. Participants thought the broadcasts had improved classroom application as the semester progressed (except for the last program). Although improvement in this aspect did not increase the number of participants, all persons starting the series completed it. This occurred even though several after-school activities in the spring conflicted with the broadcasts; in such instances, the site coordinator taped the program and scheduled a meeting a week later. The elementary principal stated frequently that the STD had shown local people how to prepare a staff to cope with specific educational problems like those in special education and career education. The high school principal, however, did not observe any notable influences or effects of in-service training on those participating; he believed that they were probably reviewing intrinsic benefits that would reflect on future curriculum development. He indicated, "These teachers will undoubtedly be the leaders in our efforts to implement the career programs in the junior and senior high school". In this regard, most of the teachers participating in the in-service did become involved in the district's career education planning groups by the end of the semester.

In a discussion with the superintendent, the elementary principal indicated that he had some second thoughts about attendance at in-service and would have liked to have had all his staff attend. He thought those who attended had gained much. He did indicate, however, that mandatory attendance might have had a negative effect on attendees. In the future he hopes the in-service tapes will be made available through the State Department of Education so that he may use them selectively.

It is evident that participation in the in-service series has influenced the career education planning in the district and has broadened the views of the staff. The librarian has established a career education section in the library that includes a number of items suggested by the in-service programs and ideas she has obtained from state career education workshops. The in-service participants frequently expressed appreciation at being able to "sit at the feet of so many experts without leaving Site C." Perhaps the high point of the year was the fact that the second in-service presenter accepted the superintendent's invitation to be the June 1975 commencement speaker at the high school.

Student Programming

The start of the second semester was awkward because of the pre and post testing required by STD research without any break time provision in programming for its accomplishment. In addressing this problem, the CD teacher used videotapes of the first few weeks of "Time Out" and began showing them the second week of the semester.

The 16 students involved in the second semester were very attentive; this attention, however, waned for certain segments such as "Dr. DOT" and "Aunt Frumpy."

Overall, the enthusiasm for "Time Out" seemed to be higher the second semester, perhaps due to comments they might have picked up from first semester students.

The second semester students also seemed to make more use of support materials such as the student magazine, D.O.T. (Dictionary of Occupational Titles), and posters. The CD teacher found that the students copied many of the jobs and classification numbers featured at the end of each broadcast. This addition to "Time Out" (listing 4 job titles) seemed to promote student use of the materials in seeking further information about specific jobs. Second semester students also seemed more able to provide constructive criticism of the programs than did first semester students. Their comments included:

> I've learned about decision-making, how to set up alternatives, and how to gather information. The student magazine helps me get oriented to the programs by telling what is going to happen that day. I like "Dr. Sponge" and "Godfrey" and the "Dramatic Readings." It's funny the way they read and still make their point. The puppets are a bit distracting because their mouths are out of sync with the sound.
>
> I like the TV class. It's different from hearing a teacher. I think it could be improved by having the theme more realistic. Time Control Central takes up a lot of time that could be used to show job segments which I really like and the puppets. I get confused by all the "big words" for different parts of TCC that don't help me understand jobs or decision-making better. I look at the student magazine to see what is coming up.
>
> The satellite class is O.K. "Marvin" gets on my nerves a bit with his manner and personality. There are no parts I don't like, but "Crossroads Corners" is my favorite. I guess it's because the things they do are more realistic and make you think about decisions or ideas you may be doing. I've learned a lot about decision-making. I had never really thought about how I made a decision. I would like to take other classes using TV or the satellite.
>
> I really like the TV class. I get to see people on the job. I really turn "Dr. DOT" off and don't pay attention to that part. I sort of like the other segments, particularly the "Dramatic Reading Society." The one today made the point that you have to learn to make decisions. I look at the student magazine to see what is going on. I find myself conscious of using the decision-making process almost constantly--like a few days ago, I misplaced a math paper and sat down to think about the possible alternatives of where it was. When I followed up several of these, I found the paper. The programs have caused me to begin to think about the future. I think I want to be a carpenter or some creative job where I can use my hands and creative interests.

School board interests in the J-Series was enhanced by the fact that two of the school board members had children in the class at the junior high. One indicated:

> I have two children who participated in the J-Series. They really like the program and come home talking about what the class saw that day. It's really great to have something like this brought to remote areas.

The interaction portions of "Time Out" were viewed and tolerated. Most of the students found it hard to keep interested in this portion, thus the CD teacher provided freedom for students to use the D.O.T., and student booklet during this time.

Materials Distribution Service

The use and acceptance of MDS materials received two setbacks affecting use. One was a shortage of video tapes to maintain films available. The other was faulty equipment. The VTR developed technical difficulties affecting the color. This unpredictable phenomenon caused the English teacher to stop the Shakespeare series because she believed that color was an important dimension of the showing. At mid-semester the VTR was sent in for repair thus delaying further recording or playback for several weeks. Here are excerpted reactions to MDS in general from the second semester:

> The MDS and the whole satellite program, is a great opportunity for people like us in remote locations. The mythology films (MDS) have provided our English program a lot which we would otherwise miss. I've used it several times and plan more. It works well as an introduction to themes, techniques, situations and concepts. Although there is some conflict in scheduling the room, it has not been unsurmountable and I certainly want to see the opportunity continue.
>
> MDS films have been a real supplement to the library resources we have here. The film on "Using the Library" has been a real help. Students have really been making use of our resources after having seen that film. The use of cartoon figures really seems to help get a message across--maybe it has something to do with our ethnic mix here.
>
> I serve on the town council and other activities. The MDS gives us materials we just couldn't afford any other way. I'm using the series on government and economics now. I'm showing them several times and suggesting some students might see them more than that.

> I really liked the MDS film on parlimentary procedure. I've shown it several times. The students seem to acquire the concepts I desired from the film. This satellite idea is really a good deal. It's a great support to us.
>
> I sure make use of those (MDS) tapes of films. It has been a real support to my classes. It's good to get a tangible return on my tax dollar. Is it true that the satellite is going to India? I think we may need it more than they do. This type of support to teaching in rural areas is really needed. You can see the benefits!

The acceptance and need met by the MDS caused much interest in future media support for instruction. The superintendent is attempting to work out a way to retain some of the tapes, perhaps by sharing costs with some of the neighboring districts. He hopes to use 20 one-hour tapes for saving selected MDS and J-Series programs; however, he thinks he needs better terms on copyrights from Enchclopaedia Britannica. In order to enhance local media capability, the superintendent authorized purchase of a porta-pak video camera and recorder so that staff can make their own programs. He indicated the equipment will also be used in the new career program to tape programs about local jobs, etc.

Evening Programming

During the second semester the evening programs were generally viewed by a small core of six or eight regulars with other persons dropping in for specific programs. The site coordinator believed that regardless of his efforts, the attendance was destined to be in the 10-20 range. He indicated that attendance seemed to be dependent upon variables over which he had little control. It was suggested that the STD should have selected one or two problem topic areas and concentrated several sessions on their solution; this would have attracted consistent and concerned audiences. The site's involvement in the Emergency Medical Training (EMT) program was an example of the latter; appreciation of how satellite delivery can assist in community problem-solving was aptly demonstrated to the nine EMT persons who participated. They believed there were a number of similar problems--practical economics, hunters' safety, farm techniques--that would lend themselves to this concentrated approach.

Summary of Second Semester

Not many changes from the first semester were observed in the site's overall acceptance of the STD and its products. First semester experiences had made the staff and community more seasoned, experienced, and constructively critical. More criticism of the evening and in-service broadcasts was made and even the CD students seem to be more realistic in their reactions and appraisals of the J-Series. Some problems also occurred with the VTR along with a general shortage of tapes to continue MDS recordings.

Nevertheless, the site's general acceptance of all programs was positive. Participation in the career-related in-service and student programs provided impetus in meeting the state's career education requirements. The high school principal's comments seem to capture the flavor of the STD's effect at this site:

> My son really enjoyed his participation in the first semester CD class. He seems to have a better attitude about his school experiences and has brought us up short several times at home when we seem to be too quick to make a decision without identifying several open alternatives. The class has been a good experience for all of us and has provided a way for us to meet the state requirements for career education. We have started career education planning beginning at the seventh grade level. I'm sure our involvement with STD has made major contributions to this planning because several of the teachers attended the in-service broadcasts. Our plans will be implemented in 1975-76 and we hope to integrate career concerns into every course rather than have a separate class for career education. During next year, we will have a high school committee to plan a career education curriculum for implementation during 76-77. The New Mexico State Education Department is providing experts, special materials, in-service training and any other help we may need. The problem I'm sure is going to be a shortage of state resources because everyone is going to need help at the same time next year in the "mad rush" to get the mandatory career curriculum going.
>
> I think there are a number of vocational offerings that could be offered via satellite hopefully in conjunction with a practicum or lab experience on the local level. We would certainly adjust our schedule to take advantage of any future satellite courses. Interestingly, the STD has assisted our curriculum consideration of minorities. Over half of our students are of Mexican American and Native American descent. The career broadcasts have made a real effort to involve minority representatives in the presentations such as Eddie in "Crossroads," the dark-haired girl and Negro girl in "TCC," Dr. McWilliams, and several job film clips of Negro, minority interests can be emphasized and I think many of our Spanish-Mexican students in the STD class have a different outlook toward jobs than those who haven't been involved.

The experience with STD has left a lasting impression and influence in Site C. They eagerly await the return of the satellite and will actively support future satellite activities.

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AN APPENDIX
TO
A CASE STUDY OF THREE SATELLITE TECHNOLOGY DEMONSTRATION SCHOOL SITES

August, 1975

SITE ACCEPTANCE OF STD AND ITS PRODUCTS AND SERVICES

The objective of the data collection efforts at all STD sites was to compile information which would accurately describe the STD participants, the conditions relating to their participation and the extent of their acceptance of the STD, its products and services. This comprehensive data collection conducted at the three case study sites included data from students, teachers and community people who directly participated in STD activities, and from school personnel and community leaders who did not directly participate.

Student participants provided five types of reactions to STD broadcasts including: daily rating fist semester, weekly ratings second semester, specific program segment ratings, mid-semester ratings and end-of-semester ratings both semester. These ratings typically asked students to use a five-point scale (5 = excellent, 4 = good, 3 = average, 2 = fair, and 1 = poor) to indicate how well they liked a broadcast, program segment, communication vehicle, or the entire series. Mid-semester and end-of-semester inquiries additionally asked students to share their perceptions of what they had learned and whether or not they would recommend STD participation to other students.

The mean daily acceptance ratings for each case study site from first semester were positive at a point slightly below the "good" (4.0) level (Table 3), which was generally consistent with the acceptance ratings from all STD student participants. The student ratings at Site C (3.44) were slightly lower than the ratings at Site A (3.93) or Site B (3.75). This could reflect that Site C had (1) receive-only capability (ROT site), or (2) a markedly different viewing population--over half were Mexican Americans. One interesting point is that acceptance ratings of the daily programs went up markedly at Sites A and B on those days when they were called upon to interact. Similarly, student ratings at Site C went up on those days when their letters were read during the interactive "Time In" segment of the program. This acceptance pattern prevailed throughout the year.

TABLE 3

AVERAGE ACCEPTANCE OF STD PROGRAMS
FOR CASE STUDY STUDENTS

	First Semester			All	Second Semester			All
	A	B	C	Sites	A	B	C	Sites
General Rating								
Students	3.9	3.8	3.4	3.8	3.8	3.7	3.7	3.6
Teachers	4.0	4.5	4.6		4.1	4.3	4.1	
Particular Elements								
"Time Control Central"	3.7	3.5	3.2	3.5	3.4	3.6	3.5	3.4
"Crossroads Corners"	3.9	3.8	3.4	3.7	4.0	3.7	3.9	3.7
"Film Clips on Jobs"	3.8	4.0	3.7	3.8	3.8	3.7	3.6	3.7
"Dr. DOT"	3.7	3.4	2.9	---	3.2	2.9	3.2	3.0
"TIME IN"	3.5	3.1	3.3	3.1	2.7	3.3	2.7	3.0
"TIME FOR YOU"	---	---	---	---	3.5	3.1	2.3	2.9
Student Magazine	3.5	3.1	3.2	3.3	---	---	---	---

The student ratings at mid-semester and at the end of the first semester revealed the same generally "good" rating for the STD project as a whole and support for its use with other students. This was complemented by similar teacher's ratings at each site. Certain program features, however, received higher ratings than others; Job clips, Crossroads Corners, and Time Control Central were accepted better than theatrics like "Dr. DOT" and "Aunt Frumpy." The ratings for both the daily "Time In" segment (3.1) and the Friday "Time for You" (2.8) program were lower than the overall general program rating (3.8). Similarly, the students rated the student magazine (3.3) lower than the general program with Site B students providing the lowest rating (3.1).

Site B rated the magazine lower than did the other two sites. It was observed at Site B that little use was made of the magazine in class and the teacher did not mention the magazine after initially handing it out to students, whereas Site A and Site C teachers made frequent instructional use of the magazine in the CD class.

The student ratings the second semester were lower but generally quite consistent with the trends established first semester. Student interest did increase on the last ten Friday "Time for You" broadcasts which were based on materials generated at a number of the sites providing information on their community and its job opportunities. These programs were produced locally with assistance from STD studio staff in Denver. Unusually high ratings would be given by the producing site for their own program. Only Site A, of the case study sites, produced a program.

Student achievement (Table 4) is an inferred indicator of acceptance. The average net percent gains for each site indicate a consistent positive change

TABLE 4

AVERAGE NET PERCENT STUDENT GAINS
FOR CASE STUDY SITES

Testing Instrument	First Semester			Second Semester		
	A	B	C	A	B	C
Career Maturity Inventory				11.5	-1.9	2.4
Career Awareness	.5	3.5	4.7	15.2	-6.0	.3
Self-Accessment	- .9	9.5	1.4	9.0	- .9	1.4
Decision-Making	1.5	8.4	2.2	10.3	1.7	4.6
Career Attitude	7.6	4.8	1.3	8.9	8.1	3.1
Time Out Test	7.8	---	13.2	6.8	2.4	7.5

for decision making, career attitudes, and the "Time Out" test across all three sites. Sites A and B reflect rather high gains in career attitude whereas Site C shows only a slight change.

School Staff Acceptance of STD Products and Services

School staff provided three types of data based on their STD participation. The first source of data came from the weekly site reports submitted by the STD site coordinator/teacher. The ratings for first and second semester are presented in Tables 5 and 6, respectively. Two trends are evident. First, Site B, ratings were slightly lower on nearly all STD products than those from the other two sites. Secondly, interaction across types of programs is rated lower than the programs themselves. The product consistently receiving the highest acceptance was the Materials Distribution Service.

TABLE 5

MEAN ACCEPTANCE FOR FIRST SEMESTER

Weekly Site Ratings of STD Products and Services

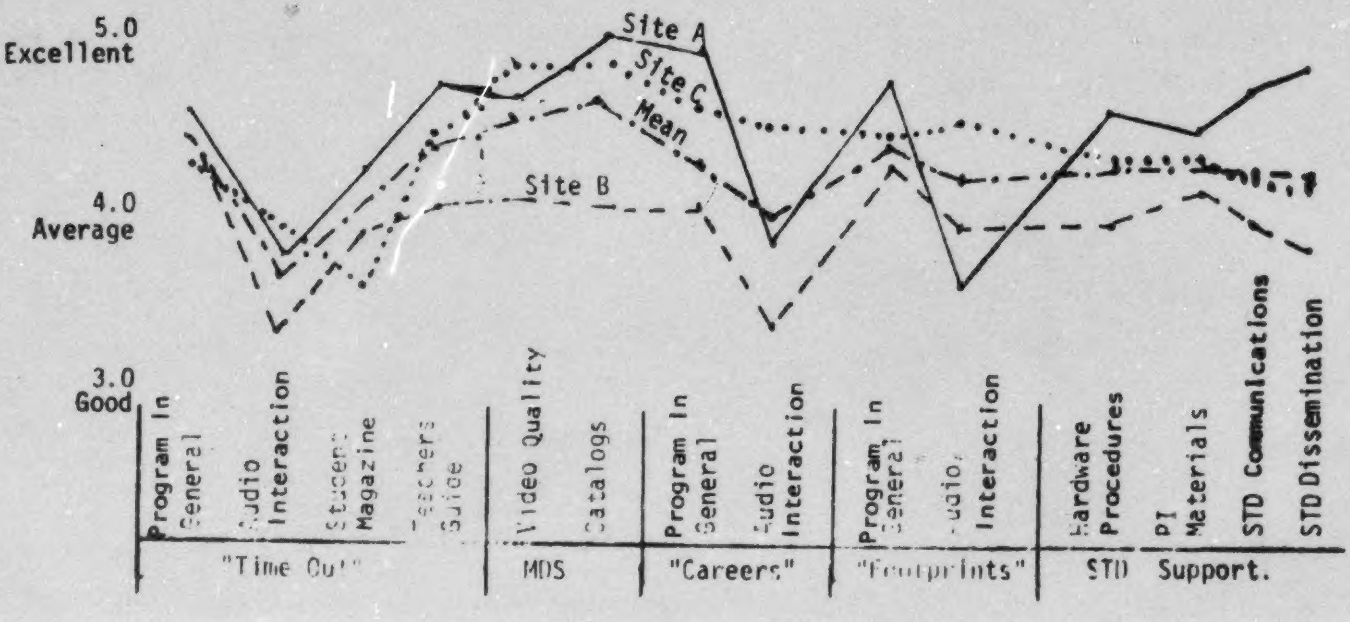
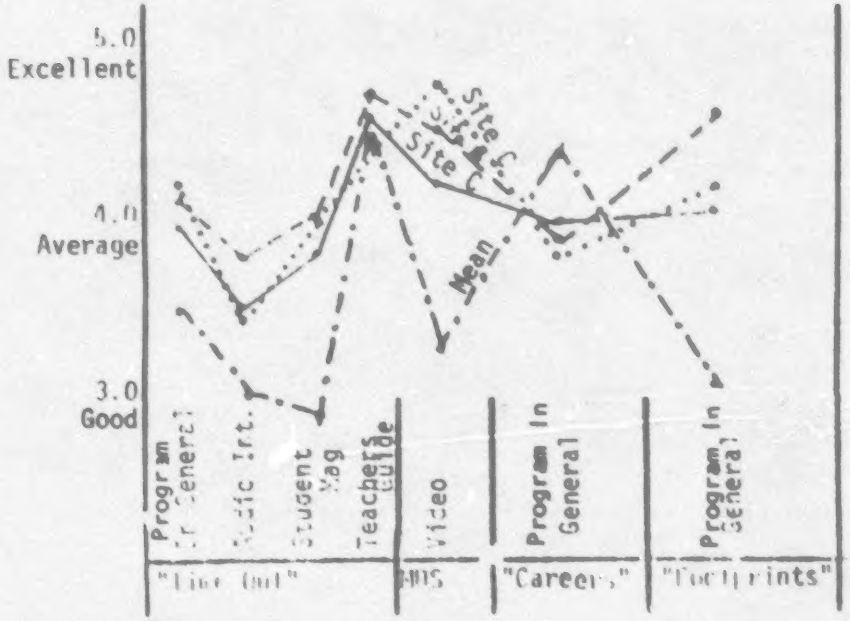


TABLE 6

MEAN ACCEPTANCE FOR SECOND SEMESTER

Weekly Site Rating of STD Products and Services



Although, each of the sites had unique circumstances regarding MDS, all three made extensive use of it as shown in Table 7. Site B was able to commit enough resources to purchase enough tape to record almost all programs. They replayed 88 of their videotapes for approximately 9,000 viewers. Site A had relatively modest funds to commit to videotape so they repeatedly "dubbed" over videotapes in order to conduct 187 showings to a total audience of 8,276. Site C also had limited funds to commit to videotape so they too dubbed over previous recordings to show 69 titles to a total audience of 2,557. Transportation and scheduling problems limited the participation of the elementary school children as did technical problems with their videocassette recorder in the second semester. Even with these problems, their interest in the service remained very high. The content ratings and audience reaction ratings ranged from good (2.0) to excellent (1.0) at all three sites throughout both semesters.

TABLE 7

RATINGS OF THE MATERIALS DISTRIBUTION SERVICE

	Site A	Site B	Site C
Content Rating	1.37	1.43	1.52
Audience Reaction	1.51	1.51	1.80

1 Excellent, 2 Good, 3 Average, 4 Fair, 5 Poor

The third source of school staff data was obtained through questionnaires which were distributed three times during the operational year: in September, 1974, in January and May, 1975. These instruments asked respondents to rate the STD and its products and services through the use of sematic scales. In addition to ratings, the instruments obtained background information about school climtes, interstaff relationships and respondent demographics.

The school-staff acceptance of STD products and services is reported as the mean sematic scale in Tables 8, 9, 10. Table 8 contains the ratings obtained in September. These ratings, while positive, should be regarded as expectancies rather than true acceptance measures, because they were taken before any actual time investment with STD products.

Table 9 contains the ratings obtained at mid-year. Site A respondents clearly established themselves as less positive toward the STD and its products than staffs at either of the other case study sites. This low acceptance is viewed as a generalized response created from their forced participation in the in-service program.

The May ratings (Table 10) indicated trends similar to mid-year. Site A became slightly more positive in its reaction in nearly all categories. Site C indicated the most drastic changes with lower ratings particularly for those support services that were not impacting on school staff directly.

TABLE 8

SCHOOL STAFF SEPTEMBER ACCEPTANCE (EXPECTANCY) BY PRODUCT AND SERVICE

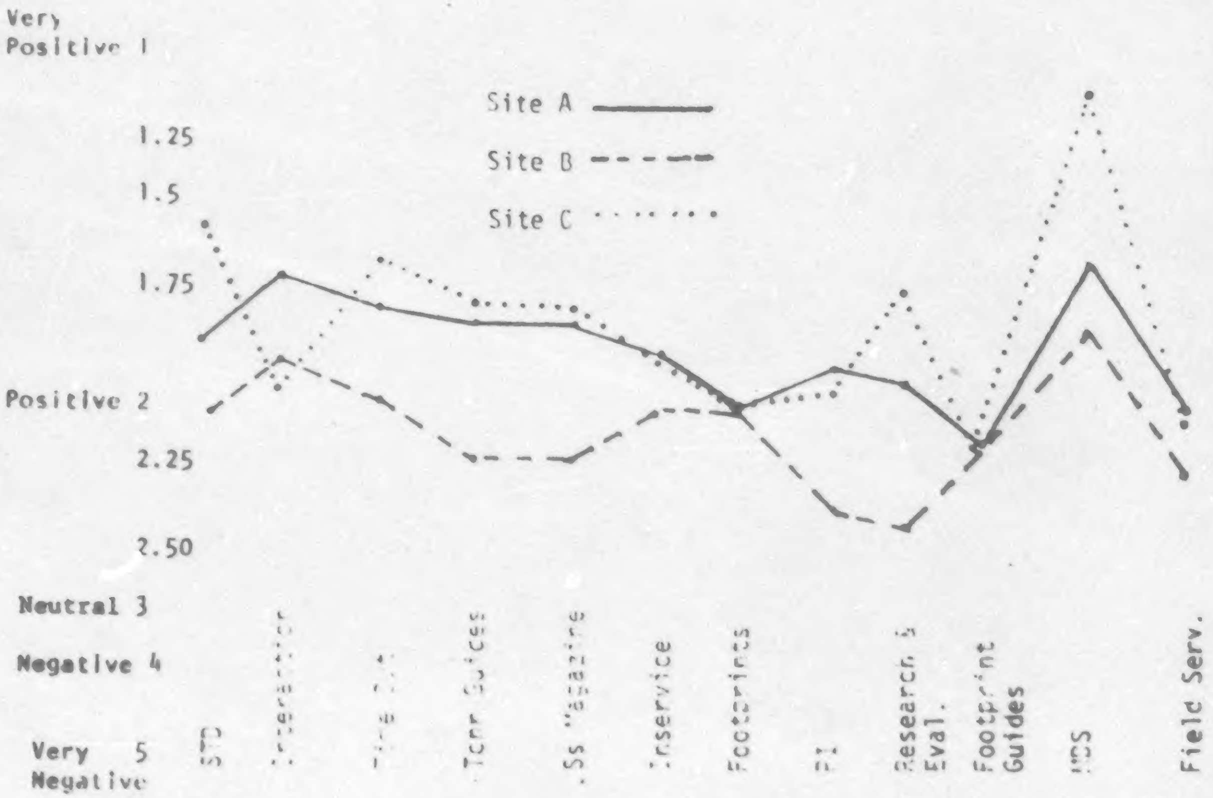


TABLE 9

SCHOOL STAFF ACCEPTANCE BY PRODUCT AND SERVICE (JANUARY 1975)

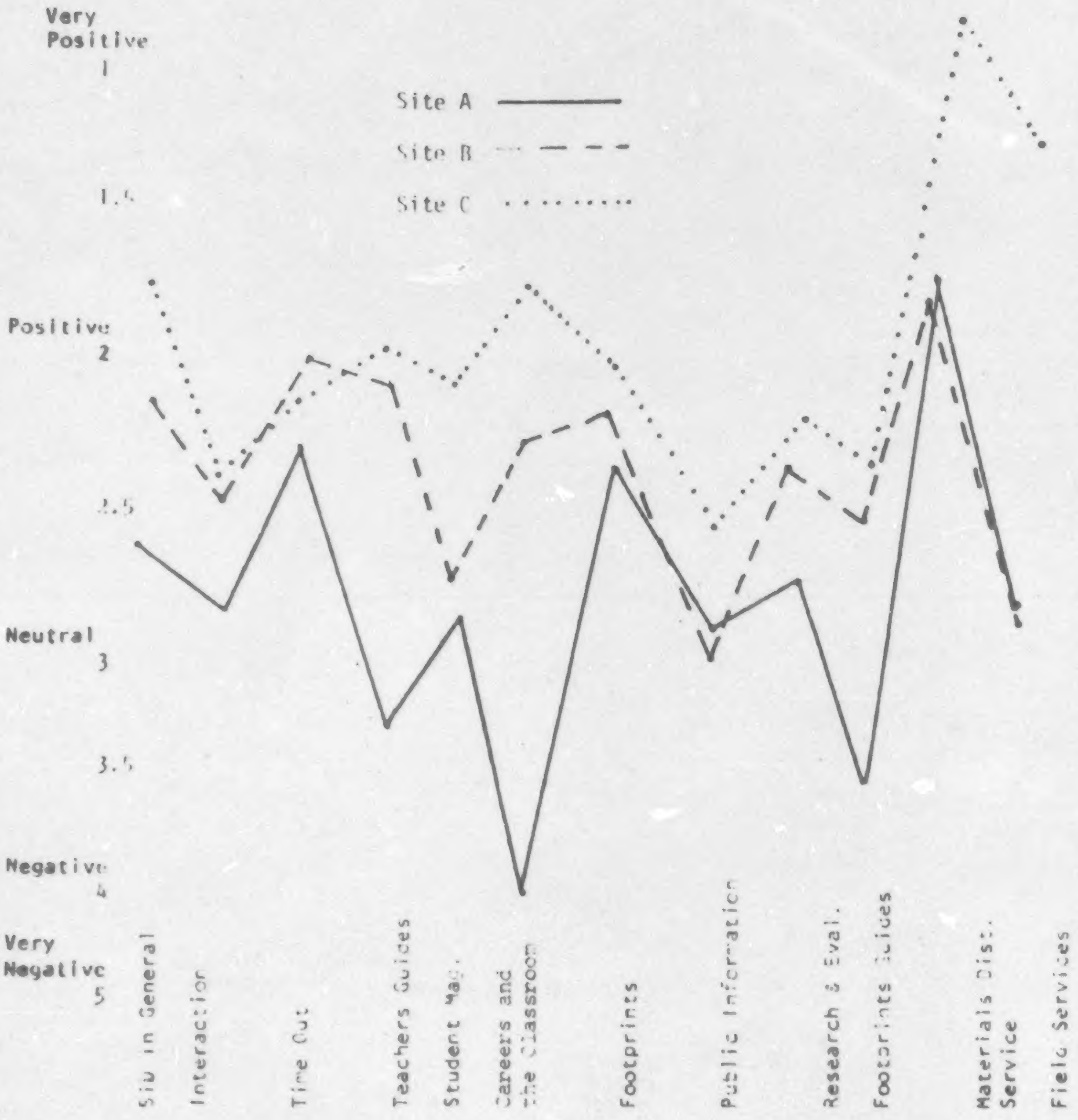
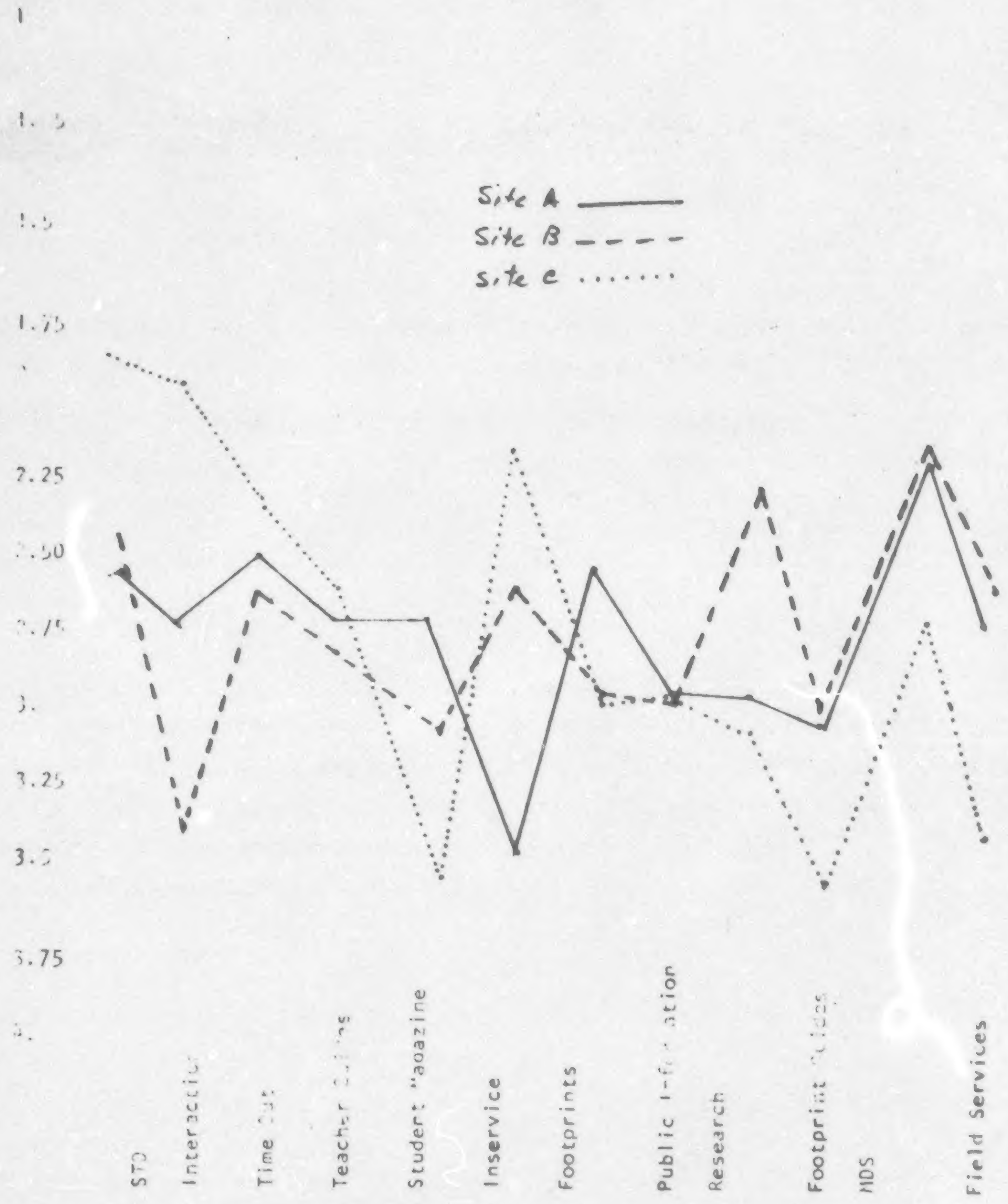


TABLE 10

SCHOOL STAFF ACCEPTANCE BY PRODUCT AND SERVICE (MAY 1975)



Differences among the three case study sites on the ratings of the twelve categories of STD products and services were tested for significance using a oneway ANOVA.

The few differences that were exhibited among the case study sites seemed to dissipate as experience with the STD progressed through the first and second semesters. There were a number of differences in expectation levels in September but these disappeared in later measures. The differences in the ratings for in-service did remain significant among the three case study sites through the three rating periods. Previous discussion has pointed to the possibe explanations, i.e., mandated attendance in Site A.

Community Acceptance of STD Programs

Participants in the STD evening series, "Footprints," were asked to rate each program they attended. Only Site C maintained consistency of attendance across the two semesters (Table 12). Attendance at the "Footprints" programs dropped off sharply in the second semester at both Sites A and B. This drop did not seem to be reflected in any change in the level of acceptance by participants as indicated by percentage of positive responses from those attending or by the rating on the weekly site report as shown on Tables 5 and 6. This is particularly apparent in the high acceptance ratings at Site B in contrast to the sharp decline in attendance at Site B community programs.

Audience Variables

The make-up of the three STD audiences, i.e., students, in-service teachers, and community people, for the three case study sites differed somewhat from each other as shown in the following tables and discussion.

The Student Population

The demographic characteristics of the student participants at the three sites are presented in Table 13. Variations in these characteristics were observed

TABLE 12

COMMUNITY ATTENDANCE AND ACCEPTANCE PATTERNS IN THE CASE STUDY SITES FOR "FOOTPRINTS" SERIES

	Attendance at "Footprints" Series:			% of Respondents Giving Positive Response to:			
	1st	2nd		Total Program		Audio Interaction	
Sites	Semester		Total Site Attendance	Pleasure	Utility	Pleasure	Utility
A	130	13	143	38%	60%	38%	53%
B	77	16	93	51%	82%	47%	74%
C	29	22	51	46%	46%	39%	39%
All							

between semester populations and between sites. During the first semester, Site A had a higher percentage of female participants than male participants. This was not true in the other two case study sites, in the overall STD student population, or in the second semester student population of Site A.

TABLE 13

STUDENT POPULATION DESCRIPTION FROM
CASE STUDY SITES

Characteristics	First Semester A	B	C	All Sites	Second Semester A	B	C	All Sites
Sex								
Male	45%	61%	54%	53%	60%	59%	54%	51%
Female	55%	39%	46%	47%	40%	41%	46%	49%
Ethnicity								
Asian	---	---	---	---	4%	---	---	1%
Mexican American	---	---	65%	17%	---	6%	51%	15%
Native American	6%	4%	---	15%	8%	11%	---	13%
Anglo	94%	96%	35%	68%	88%	83%	49%	71%
Age								
12 years	52%	---	14%	28%		---	---	13%
13 years	42%	---	57%	43%	40%	---	28%	41%
14 years	6%	91%	29%	20%	48%	53%	8%	30%
15 years	---	3%	---	6%	12%	47%	5%	12%
16 years	---	6%	---	2%	---	---	45%	3%
17 years	---		---	1%	---	---	15%	1%
Grade								
seventh	61%	---		29%	---	---	---	26%
eighth	39%	3%	100%	52%	100%	---	94%	53%
ninth		97%		16%		97%		19%
tenth				3%		3%	6%	2%
Standard Achievement	[illegible]	8.74	6.83	8.1	8.0	8.31	8.46	7.96

In regard to the ethnic makeup at each site, the participant population each semester paralleled the local community make-up. Differences between sites were apparent in that the majority of Site C's student participants for both semesters were Mexican-American in contrast to the strong majority of Anglo youngsters at Sites A and B. This degree of Mexican-American participation at Site C was selected for case study consideration.

Only Site B maintained the same age and grade level for the experimental student populations both semesters, because the 9th graders were the youngest population readily accessible in the high school. Sites A and C used junior high schools and had greater flexibility in selecting populations. In the experimental class, Site A utilized seventh graders the first semester and eighth graders the second semester and also involved ninth graders the second semester on a non-experimental basis. Site C involved all eighth graders as their experimental student populations both semesters by scheduling a special social studies curriculum juxtaposed with the career education class. However, unlike the other two sites whose experimental groups reflected rather consistent achievement levels between the two groups for their grade levels, Site C's second semester youngsters were achieving at a higher audience level (8.5 grade equivalent) that their first semester group (6.8 grade equivalent).

The second type of student audience consisted of those children who watched MDS recordings under one of several arrangements. Students were taken to the STD site (classroom) to view the showing or the equipment was moved to their classroom for a showing. Site A and Site C had limited resources to purchase videotapes so those they had were reused by "dubbing" over former programs once they had been shown. Site B committed enough resources to purchase tape to record all the titles and programs broadcast, with an eye to future use of the library after the termination of STD. The recordings, showing, and attendance of the three sites is shown in Table 14. Sites A and B were able to arrange for a large population of elementary children to see the showings. Site C was not able, because of a combination of transportation and scheduling problems and a lack of funds to purchase additional equipment for use in the elementary school. Site B experienced a similar problem with the junior high children. The school was located too far from the STD classroom to make transporting students feasible within the forty minute periods. There was also an unwillingness on the part of the junior high staff to make the changes necessary to participate.

TABLE 14

DATA ON THE USE OF THE MATERIALS DISTRIBUTION SERVICE FROM CASE STUDY SITES

	Site A	Site B	Site C
Recordings	200	467	109
Showings	137	163	93
Film Titles	138	88	69
Attendance	8276	8943	2557
Elementary	5553	7635	----
Jr. High	1895	120	621
High School	713	1139	1936
Adult	115	49	---

School Staff Population

Information on this audience came from three sources: the weekly site report, in-service reactions, and the school-staff questionnaires.

The weekly site reports provided information on the time allocated to STD efforts and the use of the Materials Distribution Service. The time involvement of site coordinators/career development teachers at both Site A and B was greater than at Site C (Table 15). This may be because Site A and

TABLE 15

THE TOTAL TIME IN HOURS FOR CASE STUDY SITE COORDINATOR/ CAREER DEVELOPMENT TEACHERS TO STD-RELATED EFFORTS

		Hours					
		Site A		Site B		Site C	
STD Product or Service	Related Local Activities	1st Sem.	2nd Sem.	1st Sem.	2nd Sem.	1st Sem.	2nd Sem.
Student Career Programs	Instructional Preparation	31.3	21.5	16.5	12.5	21.8	27.5
	Viewing Time	75.0	75.8	45.5	37.8	28.8	38.8
	Support Material Use	20.5	18.3	4.0	2.0	10.8	9.8
	Class Support Activity	18.0	13.3	8.0	21.8	----	10.8
	Outside Class Support	9.5	15.0	3.5	17.5	1.3	7.5
Materials Distribution Service	Recording Time		31.8		37.5		20.0
	Showing Time	51.5*	62.3	66.8*	47.0	24.8*	12.5
	Paperwork		13.3		16.5		6.3
Footprints	Viewing Time		4.5		9.3		5.0
	Replay Activity	17.8*	1.5	27.5*	.5	19.5*	1.3
	Promotion Activity	21.5	5.8	30.3	10.0	11.8	8.8
Careers	Viewing Time		8.3		14.5		10.0
	Replay Activity		6.3		16.0		3.8
	Information		6.8		8.8		4.0
Other	Equipment Manipulation	12.3	14.8	21.0	11.8	6.5	16.8
	Reporting Efforts	32.4	28.3	23.5	12.8	18.0	17.0
	All Other	25.0	33.5	20.5	48.5	9.8	28.25
Total		314.0	360.5	258.0	324.5	152.8	227.8
Weekly Mean Hours		18.5	21.2	15.2	19.1	9.0	13.4

* One Category on First Semester Weekly Site Report.

B were intensive (IT) sites and Site C was receive-only (ROT). Another difference was that a greater amount of time was reported in the second semester than in the first semester for all three sites. This is due partly to the revision of the weekly site reporting form to accommodate more explicit time categories.

The amount of time for all sites was greater the second semester. Other differences are apparent in that Site A reported the involvement of two classes (75.8 hours) whereas Site B and C involved only one class. Site B had a reduction in the total viewing time from first semester to second semester. Both Sites B and C made little use of the Friday broadcasts second semester, whereas Site B made extensive use of the Friday broadcasts first semester. There is a noticeable increase in the time expended for class support activities and outside class support second semester indicating that the teacher (having been through the STD materials first semester) may have arranged for more class activity second semester to supplement the STD programs. There is a noticeable decrease in the time spent in promoting the community broadcasts second semester, which could reflect on the declining attendance, particularly at Sites A and B second semester, as shown on Table 12.

Descriptions of the participants in the teacher in-service population are shown in Table 16.

TABLE 16

DESCRIPTIVE DATA OF IN-SERVICE AUDIENCE
AT CASE STUDY SITES

Number:	Site A	Site B	Site C
Teachers	29	10	10
Administrators	4	1	1
Other	8	1	
Male	21	6	7
Female	17	5	3
Average years in System	1.0	6.2	7.7
Average years in Education	2.6	9.0	16.3
Average age - Teachers	27	36	47
Average age - Administrators	39	43	42

As expected, those participating in the in-service programs at the three sites consisted mainly of teachers in the local school district. Each site had one or more school administrators also viewing the program. Most of the viewers of the in-service broadcasts also served as respondents to the school staff questionnaires.

As seen from the data, the staff at Site A is new to the community, relatively inexperienced, and young. Site C has a much older staff with considerable experience and longevity in the same school. Reasons shown on Table 17 for taking the in-service class, reveals the majority of Site B and C participants came to obtain college credit. About half of the Site A in-service audience also obtained credit. The administrative pressure was very apparent in the responses at Site A, 63% responding as required by the school and 35% responding that attendance is expected of them. A large proportion of Site B participants are viewing tapes of the broadcasts rather than the live presentation.

TABLE 17

REASONS CASE STUDY PARTICIPANTS GAVE FOR ATTENDANCE
"CAREERS AND THE CLASSROOM" SERIES

	Site A	Site B	Site C
Total Responses			
# Responses (16 programs)	394	76	117
Viewed Live Broadcast	91.6%	61.8%	88.0%
Viewed Taped Broadcast	11.9%	70.2%	1.0%
Reason for Attending:			
General Interest	24.1%	22.4%	77.8%
College or Recertification Credit	49.2%	96.1%	82.1%
School Requires	62.7%	NA	NA
Expected of Them	35.0%	1.3%	.9%
Other Reasons	1.3%	--	--

The school staff questionnaire responses provided a wealth of background information on perceptions of school policy, interstaff relationships, and demographic descriptions of the personnel in addition to their ratings of STD products and services. The September questionnaire points out some striking differences among the three case-study sites as discussed below.

Site A has a high incidence of "excellent" ratings for the relationships between teachers, administrators, and community. Site B has a much higher incidence of "average ratings." Site A and Site C perceive a frequent involvement of the local teachers' organization in decisions and support of the schools whereas, Site B perceives virtually no involvement of the teachers' organization. Site A staff members see high uniformity in most instructional and grievances policies where Site B sees little uniformity. All sites perceived little influence on determining school policy from citizen groups or committees.

Community Population

The evening "Footprints" programs were viewed in all three sites by audiences that were similar in background with few exceptions in Site C. A higher proportion of the Site C audience was male, was of "other" ethnic background, had fewer years of schooling, watched TV four or more hours a day, and traveled shorter distances to the broadcasts than did those in Site A and Site B.

IMPACTS OF THE STD ON CASE STUDY SITES

Although the STD was designed to demonstrate the feasibility of a technical delivery system, concern with the acceptance of the system and its products by users was a major focus. Acceptance measures were generally obtained through questionnaires. However, it is through the case study sites, that STD observed and documented the tangible and behavioral aspects of acceptance. In performing this documentation task, special emphasis was placed on identifying the residual effects or "impacts" that occurred at sites and that could be attributed to STD participation.

The following table summarizes these observations at the three case study sites. As each impact is discussed, possible influential factors have been noted.

TABLE 18

FOOTPRINTS - AUDIENCE DESCRIPTION
FROM CASE STUDY SITES

	General Audiences		
	A	B	C
FOOTPRINTS - Attendance		73	
Seen at least 3 earlier shows	7%	7%	33%
Not seen one	81%	72%	50%
ETHICITY			
Anglo	89%	93%	58%
Indian	5%	1%	
Chicano		1%	17%
Oriental		3%	
Black		1%	
Other	7%		25%
SEX			
Male	38%	49%	62%
Female	64%	51%	38%
YEARS IN SCHOOL			
Mean	15%	14.2%	13.7%
8th or less	2%	0%	27%
17 or more	18%	17%	56%
HOURS TV/DAY			
1 hr.	34%	24%	33%
2 hr.	25%	17%	8%
3 hr.	20%	27%	8%
4+ hr.	6%	20%	33%
Mean	1.75%	2.3%	2.25%
MILES FROM HOME			
Less than 1	56%	40%	33%
More than 10	20%	8%	8%
Mean	2.5 mi.	1.6 mi.	4.25 mi.

TABLE 19

STD CASE STUDY IMPACT SUMMARY

Impact Areas	Site A	Site B	Site C
Curriculum	Career Education in General:		
	Although the state had not mandated career education, the superintendent felt it was essential; particularly to broaden his schools' curriculum from what had been a "college prep" orientation. STD provided the impetus in support of career education in school curriculum. The motivation of teachers, counselor, librarian, and students in career education was high justifying further development.	The STD provided a convenient opportunity to meet the obligation of a state accountability contract in the area of career education. It provided the major input for planning career education course work for the coming year and for an expanding counseling efforts in this area.	Site C was delighted to participate because it provided the springboard for compliance to their state's new mandate for career education. The STD was effective in helping Site C meet this objective.
	Time Out Specific:		
	Students who participated are highly motivated and have made repeated requests for additional information. Since the school could not afford sufficient videotape to record "Time Out" they are moving to integrate career education into 7th grade social studies curriculum using a new "Decisions in America" text. Emphasis will be on self awareness and decision making. Teachers guide will continue to be used as resource manual as career education is integrated into social studies program. Student magazines were viewed as having little residual use.	The entire second semester "Time Out" series was committed to tape. These tapes will be selectively used to provide a one semester 9th grade course that will include three periods a week of "Time Out" with the other two periods a week devoted to teacher directed activities. Some of these activities will be derived from the "Time Out Teachers Manual." The CD Teacher/Counselor will continue to teach the new course. He will include the use of the General Aptitude Test battery in the course curriculum.	Discussion with students, teachers and parents indicate that sutdents benefited from having participated in the "Time Out" series. However, because of expense, the site was unable to tape the series for future use. In addressing career education in the future they are progressing with plans to integrate career development concepts into several subject areas across levels.

TABLE 9
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Impact Areas	Site A	Site B	Site C
Curriculum	Careers' - In-service--specific: The superintendent in an effort to promote staff awareness and interest in career development, made participation in the in-service series manditory. Most informants agreed that this decision resulted in negative effects which may "turn off" some teachers to career education, but some staff have integrated ideas from the in-service into their instruction.	Participation has fostered efforts to integrate some career related activities into traditional course work, however, the long range effects from participation are not apparent at this time.	Participation in the in-service course was perceived as providing substantial benefits to those involved. Many of those attending the in-service programs became major contributors in the planning groups that were formed to establish the school's curriculum in career education.
	Materials Distribution Service: This service was extremely popular and widely used. However, the expense of videotape and residual copyrights precluded the creation of a permanent library. The primary residual effect is a greater awareness, interest and understanding among the instructional staff for the contribution that media can make to the curriculum.	The service was enthusiastically received and nearly all MDS materials that were distributed by the STD were taped. These have been cataloged for future use. It is anticipated that the tape library will be reorganized to facilitate even greater use in fall 1975.	The service was extremely popular with the junior high school and senior high school teachers who were, because of proximity, able to make more use of the service than the elementary school. It was a service that enriched many subject areas.
	Technical/Audio Visual: While not able to afford a permanent videotape library the site plans to make extensive use of its acquired video capacity through the creation of local programs. A videotape on bicycle safety is being done, the creation of another for the Bicennial is planned. A proposal has also been formulated to support a program at the upper elementary grades on computer technology.	The STD promoted an increased use of technology in the district and a simpler procedure to obtain instructional films through the MDS. Much more filmic material was used this year to support instruction and plans are to continue and expand this practic because of its widespread appeal.	Because of the popularity of the "Time Out" series, the MDS materials, and perhaps first hand exposure through in-service; the attitude toward mediated instruction is much more positive.

TABLE 19
Page 3

Impact Areas	Site A	Site B	Site C
Resource Allocation Technical/Audio Visual:	Consideration is being given to acquiring a replacement for an old B/W television camera to complement the color videotape recorder and monitor obtained for STD participation.	There have been substantive resource commitments to audio visual technology at this site. Hundreds of hours of videotape have been obtained to complete the tape library. It is anticipated that copyrights will be obtained for all or nearly all of this material. During the operational year a major commitment was made to busing youngsters from one school to another for MDS participation. With the creation of a permanent tape library the site now feels it can justify the acquisition of the necessary equipment for the elementary school.	It is planned that the new high school being designed will include provisions for television viewing in each classroom. A request has been made by the superintendent to obtain a color TV camera to complement the reception equipment they now have. They plan to use this capability in a number of ways including the creation of local "on the job" tapes for their expanded career education curriculum.
Resource Allocation Library Resource & Reference Material:	Library resources have been greatly expanded including a microfiche reader/printer to use with Project VIEW (Vital Information on Employment and Work provided free by Montana State Department of Education). SRA career labs, etc., have been acquired or are on order.	Site B has requested access to left over STD materials to assist in their local support of a semester course on career development.	Using inputs from the "Time Out" teachers guide, the D.O.T. and ideas obtained from the in-service course and from the State Department, the librarian and site coordinator are accumulating a large number of resource materials on career education.
School Procedures Schedules:	In order to accommodate live reception of "Time Out," the schedule for the school had to be modified. Because the "Careers" course extended throughout the year it blocked consideration of other in-service topics, which will be addressed next year.	The STD would not have been welcomed at Site B if it had to be implemented in the junior high school because they would not have been willing to make the necessary schedule adjustments. Because the high school featured modular scheduling, it was a simple process to accommodate STD programming. The future 8th grade career education course will be paired with other one semester offerings such as: art, industrial arts, p.e.	The school schedule at Site C had to be modified to start at 8:30 instead of the traditional 9:00. It will revert back to the later time in the fall to accommodate the extremely long bus routes (up to 80 miles).

TABLE 19
Page 4

Impact Areas	Site A	Site B	Site C
School Procedures	Use of Resources: The commitment of a classroom to TV viewing greatly enhanced MDS efforts, but caused some minor scheduling problems. Because few videotapes were retained, this room will revert back to general classroom use.	It has not been decided what the room allocation will be next year to accommodate television viewing. No decision has been made to commit a single room for all viewing, as they did during the STD operational year. A major effort will be made to revise MDS tapes so that subject matter and grade levels are appropriately grouped.	Site C is in the midst of a building program. They did not have an "extra" classroom that could be converted into an audio-visual viewing room. This made it difficult for teachers to obtain access to MDS materials and prompted the acquisition of a portable unit. Although the portable unit did enhance the participation by classes in the building it did not meet the needs of the elementary school who desperately wanted to participate. For five weeks during the second semester, Site C was without a VTR unit because it was out for repairs. It is not possible that its constant wheeling from class to class precipitated the maintenance problem.
School and Administrative Climate	School Board: The school board has expressed general interest but looks to the superintendent for direction.	From the early planning stages, steps have been taken to keep the school board actively involved. This involvement undoubtedly facilitated their support for resource commitments to a film library and to counseling and career development.	The school board was generally aware of STD products, in some instances through their children. However, they look to the superintendent for direction in regard to initiating action. It does appear, however, that they have a greater appreciation for the potential role of media and would thus, be more receptive to future allocation requests in this area.

TABLE 19
Page 5

Impact Areas	Site A	Site B	Site C
School and Administrative Climate	School Relationships: Although the superintendent's decision to mandate attendance at in-service created a strain on the school climate, it appears that teachers generally understand his desire to fulfill a perceived "site commitment." Thus, their attention was not focused on him (whom they genuinely respect), but rather on their perceived weaknesses of the in-service series. For this reason, no lasting negative impact is perceived. STD participation supported the efforts of a curriculum committee whose task was to address career education at the elementary and junior high levels. MDS participation also promoted considerable cooperation among teachers at different grade levels and in various subject areas. Since participation was coordinated by the site coordinator, this person's influence in the school was elevated.	The close link between the grade school and high school has been strengthened by their joint participation in the MDS and In-service efforts. The junior high school had already initiated some efforts to integrate career concepts into their social studies curriculum, etc. It is not unlikely that it will join with the elementary school and high school in utilizing some STD products now that they are available at local discretion.	STD participation resulted in greater site commitment to guidance and counseling as well as career development. During the operational year, career development planning committees were formed. It does appear, however, that the joint participation across school levels in various STD activities has enhanced communication.
School/Community	Local: There was generally low level community awareness or involvement in STD activities after the first few "Footprints" programs. Most people who were contacted indicated that the school and community support for such services would be rather apathetic. Most local persons contacted who were aware of the school's involvement in the STD, expressed pride regarding their school's participation and hoped that it would continue.	Because accountability committees require community involvement, there has been community representatives in the career education effort at Site B from the beginning. This involvement has generalized throughout the community in awareness of STD products and services and tangible support for a work experience program.	Informants indicated community appreciation for the schools involvement. Presentations using STD products at civic club functions helped to promote local pride in their STD involvement.

Impact Areas	Site A	Site B	Site C
School/Community	Surrounding Communities: The other small towns in the area seemed generally aware of Site A's participation in the STD through newspaper articles and television reports. Site A's image among surrounding districts has been enhanced as a result of its participation and its willingness to share experiences and materials. The opportunity to share materials was greatly facilitated by the site's cooperative relationship with the regional television station which redistributed STD products other than MDS materials. Since neither the station nor the site was able to establish a complete tape library this service will be discontinued. However, its presence demonstrated to the participants how interschool and intercommunity cooperation in such areas could be achieved.	Site B has received many contacts from other communities (some frm over 150 miles away.) concerning their STD participation and future possibilities regarding the participation of additional sites. The superintendent is currently negotiating with surrounding districts to see if a distribution system might be possible next year to offset videotape costs.	Site C worked out an agreement to provide a dubbing servica (utilizing 10 tapes) on "Time Out" programs for a non-participating school in their area. The agreement worked well and has increased the stature of Site C and established lines of interschool cooperation. Site C also cooperated with another STD site to exchange support on a need basis. These lines of communication hopefully will be maintained.

SUMMARY AND CONCLUSIONS

This section of the report provides a summary of key events, methods, personnel, and acceptance associated with the case study sites' participation in the STD concluding with implications and recommendations.

The summary will address events and processes in the order in which they occurred, thus, paralleling earlier discussions regarding the various phases of the Demonstration, i.e., selection, preparation, and operational periods.

Selection

Site participation began with initial awareness and selection process implemented by the Utilization component. They provide participating state agencies with STD background information along with a request for site recommendations for consideration. Once these site recommendations were received, representatives of recommended sites were clustered in convenient locations for formal orientation briefings which were followed by on-site visits to interested sites. The visits to sites resulted in a data base which facilitated the selection of site participants from among interested candidates.

Respondents at the case study sites indicated that the selection process worked well. It gave representatives of recommended sites several opportunities to interact with the STD, their State Department of Education, and other prospective sites prior to their final selection. These contacts resulted in much information sharing and established the foundation for general understandings and trust relationships that were maintained throughout the life of the project.

Observations at case study sites and field observations at other sites indicate that, within the parameters established by STD site criteria, the initiative, industry, and leadership of the school district superintendent was a major contributing factor in State Department of Education site recommendations and subsequent

STD site designations. The leadership exerted by superintendents, was also a major factor in the selection of case study sites which, by design were not selected to be representative, but rather "insight producing." The rapport established among these superintendents, the state Departments of Education and the STD, and the existence of carefully detailed and mutually agreed-upon written contracts, were instrumental in maintaining cooperation and enthusiasm among participants.

Preparation

Since the case study sites had strong support from the school superintendents, no difficulty was experienced in selectively obtaining high quality teachers to serve as site coordinators and/or career development teachers. Similarly, the superintendents at the case study sites were generally able to motivate and involve the building principals. In those instances where the superintendent was not able to gain support of the building principal (the elementary principal in Site A and the junior high school principal at Site B) school participation and acceptance were seriously affected. Histories at these sites suggest that the STD's course of action in initiating and maintaining site contact through the school superintendent was effective, but that supplementary and specific information packets for school boards, building principals, and teachers might have broadened and enhanced the awareness and support base. Nevertheless, the support base at sites was quite high and they were willing to modify school schedules and make necessary resource allocations to meet STD requirements.

Although delays experienced by the STD in its receipt of broadcast and equipment subsequently affected the hardware installation at some sites, this did not occur at any of the case study sites. The technical installations at end of the case study sites were accomplished smoothly and site respondents were pleased with the technical support they received.

Just prior to the start of operational broadcasts, the site coordinators and CD teachers at STD sites participated in a televised, three-day pre-service workshop. This workshop was designed to provide a "hands on" orientation to the site hardware and to develop a necessary understanding of the STD programs, data collecting instrumentation and procedures, along with other facets of their role as local STD representatives. Informants at the three sites indicated that this experience was extremely useful and should be repeated at least once during the year. Mid-year meetings were conducted by STD project staff, but did not provide the breadth of exposure to all STD activities as did the pre-service televised workshop.

Operational Period

Although attempts had been made at STD to create expectancies consistent with Demonstration requirements and products, site expectations, in some instances, were at variance with what was to occur. One such area was the STD's need for data collection. The sites had been forewarned that the Demonstration had an experimental basis, yet they were initially overwhelmed by the magnitude of the reporting requirement. Fortunately, the personnel at the case study sites and at most STD sites accepted and met the responsibilities after experiencing some early shock. Data collection responsibilities again became severe at mid-year when pre-testing for second semester students and post-testing for first semester student participants had to be accomplished without a break in program reception to complete the task. Aside from these problems and some minor difficulties regarding data collection instructions, events went smoothly; and, for many sites, represented the first time students had been able to participate in the evaluation of the instruction they received. Students interviewed at many sites expressed enthusiasm for the opportunity to indicate their perceptions about various program elements. Site A school staff indicated that they plan to continue this practice in some other curriculum areas.

The satellite signal quality delivered was better both in audio and video than the sites anticipated. All site personnel and audiences indicated that it was superb. This was not the case for the audio interaction signal. Although steps were implemented to improve the signal, the audio quality of that system did not meet the sites' expectancies nor compare favorably with the program audio signal. Chief complaints of the audio interactive system centered around:

1. The difficulty hearing comments and questions from other sites; these were generally repeated by the studio moderator of the interaction program.
2. The interactive system accommodating only one person at a time.
3. The time limitations and the need for sharing among sites; site participation was generally confined to asking questions; these questions were seldom spontaneous because the site might go two or three days between opportunities to interact.

As a result of the above system constraints, the interaction received only modest acceptance. Audience acceptance and interest generally peaked for that period of time when they were the active participant. Exceptions to this pattern were observed in three interactive situations. Both sites A and B were involved primarily as control sites for some experimentation with a digital system that required student participants to actively respond to questions during the viewing period. This experimentation did not take place until the last week of the second semester programming. The active enthusiasm it generated suggests that it has major future potential.

Another promising interaction modification was implemented for the last five "interactive" Fridays when students and teachers at sites were provided an opportunity to cooperatively plan and develop the Friday programs with production and distribution support from the STD. These programs featured selected STD sites or site events and were well received. In the cooperative planning for these Fridays, sites began to make effective use of the audio interaction capability at times when "Time Out" was not being transmitted. These three situations and the general improvement of the service during the year led most site respondents and coordinators to express continued interest in what they believe is the potential of an interactive communication system.

The "Time Out" series was well received and general site expectations were met. The series made a significant contribution to the curriculum in the case study schools. All three sites felt a need depicted by expressed interest or state mandate for career education which was provided by the "Time Out" program. Student and teacher acceptance was high but varied among the various program formats and vehicles. The more realistic vehicles and film clips received the greatest acceptance. The teacher's guide with its many useful suggestions was also well received; more so that the student magazines which were designed more as a stimulant to interest than to learning.

As a result of their interest in career education and involvement in "Time Out," each of the three sites is making some provisions for future efforts in the subject matter area. Site B, the most affluent of the three sites, taped "Time Out" and will refine it and use it as a one-semester course. One of the key modifications will be the integration of teacher-directed lessons two days a week. This modification reflects the concern of all STD sites including case study sites, that more time for teacher-directed efforts were necessary. Site A did not have funds for taping "Time Out," but found their students were very motivated toward career education particularly the decision-making segments. Consequently, they are obtaining a social studies program with a decision-making focus and have assigned the teacher who served as the site coordinator/CD teacher instruct 7th grade social studies with a major emphasis on career education and decision-making. Site C, economically the poorest of the three sites, was also unable to purchase video tapes to record and maintain the "Time Out" series. They are, however, mandated by the state to implement a comprehensive career education program. Since they do not have the resources to establish a course on career education nor are sure that such "separateness" of subject matter is best, Site C established an ongoing curricula committee to facilitate integration of career education concepts into various subject matter areas and across grade levels.

Site C found the STD's in-service course, "Careers and the Classroom," particularly useful in assisting them with their comprehensive planning; thus, their acceptance of the series was good. The acceptance of the course, at Site A was poor. Certainly, a major factor in this low acceptance was the mandate that all staff must attend; the mandate was issued by the superintendent to give all staff regardless of subject expertise or level, a familiarity with career education. Unfortunately, the series did not meet teachers' expectations and many were caustic in their remarks about the series. As a result, few positive results of the series are evident at Site A. Although the series achieved modest acceptance at Site B, no tangible evidence was observed relative to any lasting impact.

Materials Distribution Service

The Materials Distribution Service was well received at all three sites, although each used the service differently. Site B had the resources to tape all programs for future use, to maintain a viewing room, and to transport youngsters from the elementary school to participate. Site A could only afford a two-week supply of tapes. They attempted to tape all programs and to reuse each tape two to three weeks after--retaining the most popular films the longest. Site A was also able to make available a viewing room and student equipment operators. Because the elementary, junior high and high school share facilities, all grade levels actively participated in the MDS service. Site C because of limited resources was neither able to create a major tape library nor to provide a viewing room. They did, however, repeatedly dub over their existing tapes in an effort to use as many films as possible. They also mounted the VTR and monitor on a mobile stand for use in different rooms. This helped teachers in the main building but did not meet the needs of teachers and students in other buildings who wanted to use the service.

Regardless of their differing modes of operation, reports from all three sites indicated that MDS materials were used several times a day and that it was an extremely popular service. Even so, only Site B had the necessary financial resources to acquire a major tape library and to consider the additional payments for copyrights acquisition.

Although the evening series, "Footprints," experienced some limited success at each site, the overall attendance was less than desired. In each site the site coordinator made repeated efforts to involve people. However, by the end of the series attendance was negligible. This occurred in the face of respondent comments at each site that there were needs within the community which could be addressed with similar programming. Interview data indicates that the format for the "Footprints" series was responsible for the limited interest.

IMPLICATIONS AND RECOMMENDATIONS

Interpretations of STD Data

The three case study sites, although not specifically selected to be representative of all STD sites, did represent a meaningful cross section. Sites A and B were intensive two-way sites and Site C was a receive-only site. Site A was a mining boom town, Site B a ranching community and Site C a stable, rural, isolated community with a mixed economy. Among the three sites there was a representative ethnic mix for the region. The economic levels in the three sites ranged from relatively high to relatively low.

The schools within these communities also varied. The staff at Site A was young, aggressive and dynamic in contrast to the more mature and stable situation in Site C. Among the three schools, experimental classes included 7th, 8th, and 9th grade students. This mix of characteristics among the three sites provide a basis for aiding the interpretation of other STD data. Implications are as follows:

1. It appears that sites did attempt to comply with the STD's request for "randomness" in obtaining the second semester STD research class. However, it also appears that operational constraints introduced some systematic biases because of class scheduling problems.
2. The time constraints for first semester post-testing may have impacted negatively on gain scores attributed to students' benefits for the first semester. This same situation prevailed the second semester, at Site C where the school year ended two weeks earlier than most site schools. It is likely that the post-testing was hurried at these locations and gain scores may be spuriously weakened.
3. Time constraints and repeated responses to the same acceptance scales may have weakened the validity of student daily acceptance ratings obtained during first semester. Observations indicated that as many as 10 to 20 percent of the participating students at case study sites were "going through the motions" in making the daily ratings--such as

using set patterns on their response forms. However, the large number of respondents (more than 1,000 per day) probably ameliorated this effect.

4. Written comments from audiences at sites tended to represent those that were either lavish in their praise or quite negative. The majority of the participants fell between these extremes.
5. Audience reaction to STD products were frequently pre-conditioned by events specific to the site, i.e., the mandated in-service attendance at Site A created a ground-swell of resentment that resulted in the STD receiving many caustic remarks about the in-service series. Site C was isolated from the opportunity to readily obtain in-service work and felt pressure from a state mandate, consequently, their acceptance of the in-service series was high.
6. The representativeness and validity of site data was very dependent on the site coordinator, i.e., personnel completing the school staff questionnaire may be biased by selection factors imposed (intentionally or unintentionally) by the site coordinator distributing the form to those persons who would respond rather than obtaining a representative, cross-section sample.

Implications for Future Telecommunications Efforts

When NASA and other federal agencies first informed officials of the Federation of Rocky Mountain States of the potential availability of a telecommunication satellite, it was unknown what the interest of local schools and communities would be. In this regard the STD pioneered this previously unexplored effort. On the basis of specific experiences observed at the three case study sites and information obtained from observations at other STD sites, the following implications and recommendations are drawn:

1. In rural communities and schools there exists a strong interest to be active participants in the "American scene." In many instances, economics and other circumstances have kept people in rural isolation. It is evident, however, that people in rural areas want to be involved and they want their children to be involved. For these reasons they were receptive to participation and committed local resources for the necessary equipment and provisions to take part in the STD. They have also indicated a strong desire to continue participation in similar activities beyond the life of the STD.
2. The STD was a three-year project with the third year devoted to operational services. The first two years were devoted to planning and development. In establishing a basic framework for participation, determining services to be provided, selecting participant communities, acquiring and installing equipment, etc., it appears that a minimum of 18 months is needed for planning and development. This is particularly true for schools where planning and budgeting is normally done at least one year in advance and in states where the legislature meets every two years.
3. The involvement of relevant state agencies in the selection and support of participating communities and schools is deemed essential to the success of the regional provision of services.
4. The STD's primary subject area, career education, was perceived by federal, state, and local officials as an extremely high priority area. Site personnel indicated that this was an extremely popular topic for the Demonstration because it provided support in an area of need. It did not compete with existing local services or programs, a factor that future planners must take into consideration.

5. Although the STD contact with state officials and school superintendents was good during the planning and development phases, more attention should have been given to providing school boards, teachers, students, and community members information once plans had been clearly formulated. Information to be shared with them should include clear descriptions (a) of the products and services they would be receiving, and (b) of the roles and obligations they may be called upon to complete.
6. Local personnel had no difficulty in acquiring the knowledge and skill necessary to operate and perform minor adjustments on the technical system. In all three case study sites, junior and senior high students eventually assumed many of these functions.
7. School personnel are receptive to programming in several areas; for students, for teachers, and for materials distribution. Similarly, they see the potential of an interactive system for not only audio interaction, but also for data transmission, teletype service, computerized scheduling support, etc. In each instance the service must be carefully tailored to meet the expectancies and needs of identified users.
8. Community programming, even for rural audiences, must take into consideration that commercial television is either available and/or audience members are generally familiar with it. Consequently, programming will need to provide products which do not replicate or emulate commercial programming. Experience with the case study sites indicates that this can best be achieved by providing short courses which promote knowledge and develop skills. Such short courses (which might consist of a series of four to eight programs) should be directed at the needs of particular intact groups, e.g., emergency medical technicians, volunteer firemen,

community planners, womens' auxiliary, senior citizens' groups, library training, etc.

9. The STD has demonstrated the technical feasibility of the delivery system. High-powered telecommunications satellites can disseminate high-quality signals that can be effectively received by low-cost ground installations.

10. High production costs and television techniques may not produce programming with the greatest educational impact.

11. Videotaping capability at local sites is a desired capability since it provides greatest local flexibility. In this regard, provisions for copyright clearance should be made by broadcasters prior to distribution. Copyright costs should also be announced as early as possible allowing the users to make necessary arrangements for lease or purchase of programs.

12. Verbal commitments regarding local audience interest and participation may not be reflected in future attendance patterns.

13. Rural sites, as exemplified by the three case study sites, demonstrate a willingness to share services with other school districts and local television stations. This willingness should be considered in future planning and in obtaining copyright clearances.

For Future Research Related Activities Dealing with Rural Schools and Communities

Extensive data collection efforts were endured and supported at state and local levels probably because the STD was perceived as having an experimental base. There is no indication that schools were "turned off" by these data demands. All three case study sites, where data collection has been the heaviest, have expressed appreciation for having been involved in the STD and for having been selected as case study sites. It is the opinion of observers that STD sites would be receptive to future research efforts if the sites were aware of the reasons for data collection as they generally were in the STD. It is also apparent that operational distributions could not maintain such heavy data collection demands without "wearing out their welcome" in a year or two.

Using the observations obtained at the three case study sites the STD makes the following recommendations for future research efforts with rural schools/communities:

1. Rural schools represent the same "real world" context for research that is found in urban schools. However, because of fewer students, fewer staff, and smaller budgets different degrees of flexibility may be evident in responding to research requests. For example, the STD found that small schools made adjustments on a district-wide basis, such as starting schools earlier to accommodate broadcast schedules.
2. Data collection and monitoring activities need to be as simple, direct, and timely as possible. Instructions must be carefully constructed for local interpretation since distances between rural sites generally preclude firsthand supervision.
3. It is desirable for research/evaluation personnel to personally provide the initial orientation and training of local data collectors, i.e., STD site coordinators; specifically the technical aspects of instruments used, population samples to be obtained, and reporting procedures. This orientation should be provided in person or via the satellite distribution service. Following this orientation, general supervision can be maintained by field service personnel. Research personnel, however, should be available for clarification of problems that occur during

operations. In this regard the monitoring and feedback network should include frequent contacts by mail, phone, and in person. Local data collectors need this tangible expression of continued interest and support. Given such support, they can collect rather sophisticated information and data with a minimum of supervision.

4. There is a need for feedback to local participating schools and communities. This data should describe their participation and the results of that participation, e.g., attendance patterns, acceptance ratings, group change scores, etc. Such information lends visibility and credence to the data collection effort and provides the schools with a basis for local decisions on related matters.

5. The STD has established a comprehensive network and informative base for rural schools and communities in the Rocky Mountain region. These schools and communities are receptive to further research and investigation.